The TRAGEDY of the ITALIA

DAVIDE GIUDICI

1st edition

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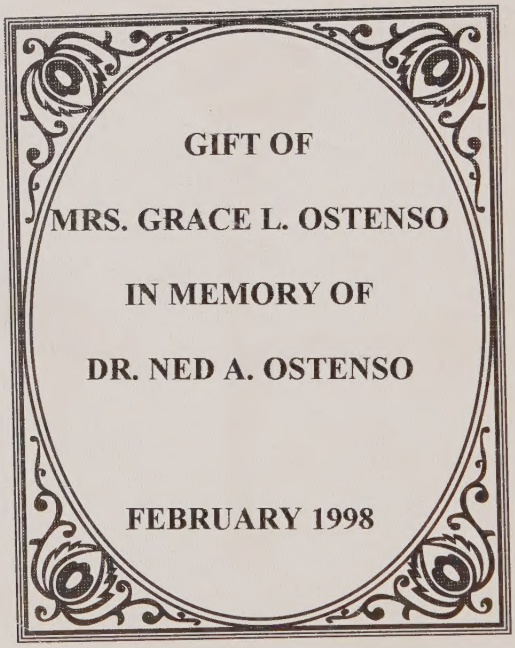

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The TRAGEDY *of the* ITALIA

The *Krassin* at General Nobile's Red Tent

On the right the boat dropped by the aeroplane; on the left the stores of the Viglieri group

The

TRAGEDY OF THE ITALIA

WITH THE RESCUERS TO THE RED TENT

By DAVIDE GIUDICI

Special correspondent of the *Corriere della Sera* on board the *Krassin*.

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INTRODUCTION

IT may be useful, for the benefit of those who read the story of my experiences on board the *Krassin* and of the rescue of the survivors of the *Italia,* to set down first some general introductory information on the organization and aims of the ill-fated expedition.

General Umberto Nobile, it will be remembered, had in 1926 crossed the North Polar regions with the Norwegian expedition of Roald Amundsen, flying from King's Bay to Teller on the North American continent. The Italian contribution had on that occasion been limited to the construction of the airship and to its navigation, General Nobile himself having bravely and ably guided the *Norge* across the Pole. As soon as he returned from that flight, the General conceived the idea of himself organizing a new expedition, which should be entirely Italian, and to the preparation of this he devoted two years of intelligent and intense effort.

The rapid execution of the plan was made possible by the city of Milan, which provided the necessary funds, and by the Royal Italian Geographical Society, which gave its patronage to the enterprise.

In a hangar at the Ciampino aerodrome at Rome the fitting-out of the airship *N-4* was begun. This was a graceful vessel with an envelope capacity of 19,000 cubic metres, almost identical with the *Norge,* to which the name of *Italia* was given. All the improvements suggested by the experiences of the 1926 crossing were introduced into the new airship, in addition to other features, which included the protection of the envelope against flying pieces of ice thrown off from the air-screws. Special attention was paid to the wireless installation, so that the *Italia* might keep in constant communication with the *Città di Milano,* a cable-laying ship which the Italian Admiralty placed at the disposal of the expedition to serve as an advance base at King's Bay. The problem of equipment was likewise the object of very close study, provision also being made, among other eventualities, for landing and camping on the ice. The equipment supplied to the members of the expedition was chosen after a close examination of the various types adopted on previous Arctic and Antarctic explorations.

The objects General Nobile had in view were to reach Spitsbergen by air in the *Italia* and thence to make two or three flights over the polar regions. The first of these flights was to be directed towards Nicholas II Land (or North Land or Lenin Land, as the Bolshevists have renamed it) to the north

of the Taimur Peninsula, of which so far only a stretch of the eastern coast is known. General Nobile proposed to complete the survey of the coast of this island or group of islands, to establish its features, and to make other scientific investigations. The second flight was to be made with the object of carrying out explorations north of the American archipelago on both sides of the route followed by Peary in his victorious march to the Pole. Peary, as will be remembered, believed he had seen, on his return journey, some land which he named Crocker Land. In 1914 the expedition under the American MacMillan came, instead, to the conclusion that this land did not exist. Nobile wished definitely to elucidate this doubtful point, and at the same time to pass on his return journey over the Pole. Indeed, a landing at the Pole itself as well as on Nicholas II Land was not considered improbable, and to this end all the necessary preparations had been made. To sum up, the idea of the General was that, while the Norwegian expedition of 1926 had been essentially of an aeronautical character, the Italian 1928 expedition was to be both aeronautical and scientific; was, in fact, to confirm the possibility of aerial travel in the Polar regions, and at the same time to pursue researches and studies such as would furnish fresh knowledge of Arctic geography, meteorology, and oceanography.

By the middle of March, 1928, all was ready. On March 21 the *Città di Milano* sailed from Spezia for Spitsbergen under the command of Commander Giuseppe Romagna Manoya with a crew of 160. The vessel had on board large stores of provisions and material, as well as many scientific instruments for making meteorological, magnetic, and astronomical observations. In the *Città di Milano,* as in the *Italia,* special care had been given to the wireless installation, which consisted of a 5-kilowatt spark set with a 600-900-metre wave-length, and a 5-kilowatt valve set with a 600-2,250-metre wave-length. The *Città di Milano* had to keep in constant wireless communication with the *Italia*—as, in fact, it did—and with the large station of S. Paolo at Rome. One of the novelties of this expedition was precisely this: that the world was to have followed from a distance of thousands of miles the flight of the airship over the Pole hour by hour.

On April 15 the *Italia,* which on March 19 had left the hangar at Ciampino for the aerodrome of Baggio on the outskirts of Milan, started for Stolp (Pomerania) on the first stage of her long journey. On board with General Nobile were the chief members of the expedition: Captains A. Mariano and F. Zappi, Lieutenant A. Viglieri, Engineers Troiani and Cecioni, Professor A. Pontremoli of the Milan University, Biagi, the wireless operator, two jour-

nalists, and the mechanics. Only two foreigners accompanied General Nobile on the expedition: the Swedish meteorologist, Dr. Finn Malmgren, and Professor Dr. Behounek of the Prague Radiology Institute. After a thirty hours' flight made amidst fierce lightning and heavy thunder, the *Italia* descended at Stolp on April 16. From Stolp, where the General had to stay longer than the time originally fixed owing to the bad weather prevailing over the Arctic regions, the *Italia* set out again on May 3, and after making a brief halt at Vadsö, finally arrived at King's Bay on May 6.

Five days later General Nobile left the hangar at King's Bay on board the *Italia* and made a trial flight of a few hours. The first of the projected explorations took place between May 15 and 18, and was greatly impeded by adverse weather, with the result that the *Italia* was able to approach very near, but could not reach, Nicholas II Land. In all, 10,000 square kilometres were explored without any new land being discovered.

On May 23 the *Italia* set forth on the second exploration, which was to prove to be her last flight. At 1 a.m. on May 24, General Nobile flew over the North Pole and let fall there the Italian national flag and the cross that Pope Pius XI had entrusted to him before the departure from Rome. Then, fighting against very difficult atmospheric conditions,

he began the return journey. The airship kept up regular wireless communication with the *Città di Milano* anchored at King's Bay until the hour 10.27 a.m. on May 25, after which all signs of life suddenly ceased.

It was the catastrophe.

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CHAPTER I

AT OSLO

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WHEN on the 25th of May, 1928, the wireless messages from General Nobile's airship the *Italia,* then on her return voyage from the North Pole to King's Bay, suddenly ceased, there were everywhere forebodings of a catastrophe. What had happened to the magnificent ship which, thanks to wireless telegraphy, the world had from hour to hour been anxiously following with its hopes and wishes across the solitary and mysterious sky of the Arctic? Why had the valiant explorers so unexpectedly become silent? Hours passed; days passed: nothing. The silence continued: the mystery became more alarming; ever-growing fears gripped all hearts. Were they alive? Or had they perished?

Where were they? Then it was that in a magnificent impulse of human solidarity, not only in Italy but in all the countries of Europe, and especially in the North, the generous desire arose to do something to aid the victims of what all could no longer doubt was a terrible disaster.

The Press, too, quickly marshalled its forces, and I received instructions from the management of the *Corriere della Sera,* the great Milanese newspaper that I have the honour to represent at Berlin, to leave immediately for Norway and thence for the Polar ice-fields. An able colleague of mine was already in the North, following from King's Bay the vicissitudes of the Nobile expedition, but the event was one which called for more than one pen. Thus it was that I had the good fortune to take part in the rescue expedition, and fate willed that I should be also the first to embrace my unhappy and courageous fellow-countrymen when the *Krassin* found them exhausted and anxious on the ice-pack. Of the many of my colleagues from all parts of the world who would have desired to share my good fortune, I was the only non-Russian journalist to be taken on board the now famous Russian ice-breaker, and my voyage, with all its ups and downs, dangers, anxieties, and final triumph, will certainly take a foremost place among the memorable episodes of my journalistic career.

The pages which follow give the story of those days just as I lived and saw them, without any literary embellishment, of which my pen is not capable, but with the absolute veracity of an accurate reporter.

. . . . . .

My voyage was adventurous from the very beginning. The train which was to carry me to Oslo had hardly passed the outlying suburbs of Berlin when, while reviewing in my mind the arrangements I had made for my absence and mentally checking the few articles I had hastily thrust into the little suitcase which formed the whole of my baggage, I realized with consternation that I had forgotten the most important document of all for a journey—my passport. If I had been travelling simply to a country on the borders of Germany, this omission would not, perhaps, have mattered greatly, but I had to cross a part of Sweden and become subject to the close control of the Swedish authorities. As, besides, it was Whit-Sunday, I realized the impossibility of continuing the journey. Alighting at Pasewalk, about an hour and a half from Berlin, I returned by a long roundabout route to the capital, which I reached about 2 a.m. on Monday, May 28.

The remainder of the night was passed in vain attempts to get into touch with the stations of the Lufthansa Aviation Company, and it was only a few

minutes before 8 a.m. that I received an assurance that the seaplane which flies regularly between Stettin and Oslo would that day have some vacant seats; the aeroplane of the Berlin-Stettin line was completely booked. I succeeded in catching the 8.30 a.m. train and arrived at Stettin in good time to embark on the seaplane.

The weather was abominable: a strong wind was blowing and showers of rain struck noisily against the wings of the machine with the violence of hail. Two travellers who were to have gone on board with me decided at the last moment not to make the crossing, and thus I found myself alone in the cabin with the exception of the wireless operator, who was heartily cursing the hostility of the elements. After flying over the strip of land which encloses the Stettin seaplane base and makes it a safe refuge, our Dornier Wal soon found itself over the open sea, which was being lashed by the wind into white-crested waves. Rain continued to fall heavily, accompanied by gusts of wind which sometimes threw the machine several yards out of its course. Only after about an hour's flight in these unpleasant conditions did a break appear in the clouds, and then the sun showed itself. A mile or so away we could discern the Super Wal, which plies regularly between Stettin and Stockholm. It had started a few minutes after us. The two machines

flew almost together for about an hour, both hampered by strong contrary winds which reduced the speed of our Dornier Wal from ninety to not more than fifty miles an hour. The wireless operator, who kept himself in continuous touch with the meteorological stations, was continually receiving advices of improving conditions and, in fact, the weather became clearer and clearer. Soon Copenhagen, the beautiful capital of Denmark, lay gleaming under a magnificent sun.

But here a surprise was awaiting me. The manager of the airport informed me that I should be unable to continue the journey owing to a shortage of machines. The Danish Air Transport Company offered to refund me the cost of the journey from Copenhagen to Oslo, and even expressed its readiness to pay my hotel expenses, but declared itself quite unable to offer me the means of continuing my journey by air. Naturally I protested in the strongest possible fashion, conscious of my rights and fortified by the engagement that the Lufthansa Company had assumed in accepting payment for the journey as far as Oslo.

The discussion lasted over an hour and at times became very lively indeed. The representative of the Danish Air Transport Company attempted to justify the momentary inability of his firm to allow me to continue the journey by explaining that its

machines, two in all, had had to be sent to meet brave Wilkins (now Captain Sir Hubert Wilkins); the sacrifice I had to make was a very small matter compared with the honours that Denmark felt she owed to the wonderful trans-Polar flyer. But, remembering that fortune favours the bold, I did not give up; I threatened to bring an action against the company and, finally, obtained from the Lufthansa of Stettin an authorization that the crew of the Dornier Wal on which I had arrived at Copenhagen might continue the flight as far as Oslo.

The pilot, mechanic, and wireless operator had already gone into the town to join the throng of thousands of people who were awaiting the arrival of Wilkins. Several motor-cars had to be employed in the search for the three precious aviators, who, however, were finally located. After having taken on board a good supply of fuel, the Dornier Wal resumed the flight. At Gothenburg the machine alighted for the formalities connected with the flight across Swedish territory and then continued the journey to Oslo.

The wind had not fallen, but the sky had become beautifully clear. We were thus able to wave a greeting from the windows of our machine to Wilkins, whom we encountered about thirty minutes after leaving Gothenburg. After a steady flight over the Norwegian fiords, we reached Oslo at 9

p.m. In spite of the series of mishaps and delays, I had still arrived half an hour before the train which I had left the night before at Pasewalk.

The unexpected arrival of a seaplane with only one passenger on board evidently made a strong impression on the good functionaries of the Oslo airport. I was taken for an official personage sent by the Rome Government to collaborate with the Norwegian authorities in organizing the relief measures for the Nobile expedition. A launch was placed at my disposal to cover the by no means short stretch of water between the airport and the city. The police authorities courteously sent an official to the landing-stage to complete immediately the frontier and customs formalities, and even provided a motor-car to take me to the hotel. The next morning the Oslo newspapers published among their late news the information that a special diplomatic courier had arrived by air—a news item which for some hours completely puzzled our excellent Minister at Oslo, Count Senni.

At the hotel I met Captain Quentin, Italian Naval Attaché for the Scandinavian countries, who had arrived that morning from Stockholm to collaborate with Count Senni in the work of rescue. The Italian Legation at Oslo, which from the beginning of the organization of the Nobile Polar expedition had dealt with the many arrangements that had to be

made with the Norwegian authorities regarding the passage and stay in Norway of ships and material for the expedition, had become, after the catastrophe, a most important link in the chain of relief organization and the natural channel for the negotiations between the Italian authorities at Rome and the commander of the *Città di Milano,* as well as a source of information to which Government organs, scientific institutes, newspapers, and private persons were applying at all hours of the day and night.

This was the situation as it existed when I arrived at Oslo. On Saturday evening, May 26, a meeting of explorers and meteorologists, attended by Norwegian official representatives, had been held at the Government palace. Among those present were Sverdrup, the trusty and daring captain of the *Fram* on the memorable Polar expedition of Nansen, Amundsen, Rijser Larsen, Gunnar Isachsen, the geographer of Spitsbergen, Major Tryggve Gran, and Captain Wisting. Nansen was at the time absent from Oslo. At this meeting the suppositions and explanations as to the absence of the *Italia* and the puzzling silence of her wireless were examined in the light of the telegrams sent by the *Città di Milano* and of the meteorological charts.

Various conjectures were advanced. Some thought it possible that the airship, as the result of a serious breakdown of the engines or an unexpected

The *Italia*

shortage of fuel, might be drifting in the air at the mercy of the wind, with a crew on board unharmed. Others considered as probable an involuntary landing on the vast expanse of the pack-ice, following the laceration of the envelope by pieces of ice thrown off by the air-screws. Others again held that it was possible that the airship had in the fog struck one of the higher mountains of Western Spitsbergen and that, therefore, a terrible tragedy had been enacted a few hundred miles from the hangar at King's Bay. All were agreed, because of the unexpected silence of the wireless, on the necessity of organizing relief measures with the utmost rapidity.

It is interesting to place on record that it was at that meeting, held almost the day following the catastrophe, that Sverdrup was the first to suggest the idea of the immediate dispatch of an ice-breaker, and that this idea was approved by all present. As, however, Norway owns only one ice-breaker, that of the Oslo Fiord, which is the property of the City Council, but had been out of use for many years, with the result that it was not in a condition to face even the voyage to Western Spitsbergen, the idea could not be put into execution. Hence, acting on the emphatic advice of Amundsen and Rijser Larsen, it was decided to concentrate the efforts of the Norwegian Government on the preparation and dispatch of naval seaplanes.

The collaboration of ordinary ships was not rejected, but their utility was unanimously recognized as very limited. Rijser Larsen laid very great emphasis on the necessity of search flights over ever-wider semicircular areas in the northern region of Western Spitsbergen, supported by the *Città di Milano* and other vessels carrying fuel and stores for replenishing the aircraft. These operations, it was recognized, would make necessary the employment of machines having a wide range of flight. As Norway possesses no aircraft of this type, it was possible to make plans only for the machines then available; and the same evening the Ministry of Marine telegraphed to Captain Von der Lippe, chief of the Norwegian Naval Air Force, at the naval base of Horten, to prepare in the shortest possible time a machine for dispatch to Western Spitsbergen.

All day Sunday, May 27, work was feverishly pushed forward at the workshops of the Arsenal at Horten. An additional tank was fitted to a naval seaplane, and on Monday morning Lieutenant Luetzow Holm was in the air on his way to Tromsö.

The choice of Lieutenant Holm was an excellent one, because the young aviator is undoubtedly one of the best seaplane pilots in the Norwegian Navy, with a fine knowledge of the Polar regions. When Amundsen was, several years ago, considering the possibility of making a trans-Polar crossing by air

from Point Barrow to King's Bay, it was Luetzow Holm who went to Western Spitsbergen and, in numerous reconnaissance flights, carefully prepared a series of rescue plans in case of a forced descent of the aviators on the ice. The crossing was, however, never attempted owing to the lack of a machine adapted to the undertaking. Luetzow Holm was in Western Spitsbergen a second time when Amundsen and Ellsworth, in company with Rijser Larsen, Dietrichson, Omdal, and Flicht, attempted to reach the Pole on board two metallic seaplanes built at Marina di Pisa. The aviators alighted on a small expanse of water near lat. 87 and were unable to continue the flight until twenty-five days later. Luetzow Holm at the time reconnoitred the zone to the north of Western Spitsbergen.

The aviator reached Tromsö in twenty-three hours, covering a distance of 2,000 kilometres—an admirable flight when it is considered that he had to alight several times in order to refuel. The seaplane was immediately taken on board the *Hobby,* the small whaler of 150 tons that had already transported much material for the expedition from Norway to King's Bay and that Amundsen had used in preparing for the flight of the *Norge* in 1926. The *Hobby* lost no time in weighing anchor and left for Advent Bay in the Ice Fiord of Western Spitsbergen to take aboard a team of dogs and sledges

offered by the manager of the local mining company.

In the meantime the Italian authorities had hired the *Braganza,* a 350-ton vessel which afterwards took part in the rescue operations up to the beginning of the second expedition of the *Krassin.* The *Città di Milano* left King's Bay for Southgate Strait, which separates Western Spitsbergen from Danes Island. This transfer was made with the object of getting into touch with some hunters known to be stationed on a small promontory along the coast, in order to secure any available information.

. . . . . .

The vicissitudes of the Nobile expedition were followed with anxious interest in Norway in those fateful days. The disaster which, it seemed increasingly probable, must have befallen the *Italia,* was considered a national one. The relief expedition to save the crew of Nobile's airship was regarded as a national undertaking, in which the whole of the Norwegian people were interested.

The newspapers, without distinction of party, devoted entire pages to the telegrams from King's Bay, to the geographical charts, and to everything which had a bearing on the Polar expedition and the work of rescue. The chivalrous sentiments of the Norwegian people, who have battled for a thousand years against the tempests of the Arctic, are above all jealousies, narrow nationalist feelings, and rivalries.

For the Norwegians, General Nobile was the explorer who had risked his life in order to snatch new secrets from Nature, and when misfortune seemed to have overtaken him, their unconditional sympathy went out to him and to the Italian people.

"Give me a machine such as the situation demands," said Rijser Larsen, "and I will straightaway begin a flight to find the lost men. With me I will take two guns and plenty of ammunition; these will be my only load. If I am compelled to land, the rest can be left to me. The bears and seals will supply me with abundant food and a protection against the cold; and next year you can come and fetch me."

Identical sentiments were expressed in Sweden, Denmark, and Finland, where the newspapers immediately called upon their respective Government authorities to organize relief measures. Just as the Norwegian Government mobilized all its military posts to keep a look-out for the possible appearance of the dirigible, the Swedish Government issued instructions to all the mayors of Lapland to urge the population to maintain a close watch and to announce immediately the presence of members of the Italian expedition.

Roald Amundsen, forgetting the differences which had arisen between him and Nobile, at once placed himself at the disposal of the Norwegian Relief

Committee, stating that he was ready to take command of a rescue expedition. The directors of the meteorological stations and the captains of the ships and whalers which were steaming in the waters of Western Spitsbergen were advised telegraphically of the disappearance of the *Italia,* and gradually a chain of observers and searchers was formed along the edge of the ice-fields from Russia to the western coast of Spitsbergen. Still, it was obvious that these measures could not prove wholly efficacious in view of the endless expanse of the zone in which the *Italia* might have fallen, or over which she might still be drifting like a free balloon.

In the opinion of Rijser Larsen, the companion of Nobile on the *Norge* flight, with whom I had a conversation on May 29, the rescue plan which ought to be followed, that of making a systematic exploration of the zone in question, could not be carried through except with the aid of aeroplanes having a wide cruising radius. But which was the zone to explore? Rijser Larsen held that it was the whole of the pack-ice to the north of Spitsbergen as far as Franz Josef Land, Nova Zembla, and the Siberian coast. This opinion was shared by all those with a thorough knowledge of the Arctic regions from whom in those days of anxious waiting I sought views on the possible fate of the Italian airship and its courageous crew.

The *Italia's* Shed at King's Bay

Fridtjof Nansen, the grand veteran of Arctic exploration, said to me on May 31:

"Naturally one must not ignore the possibility that the *Italia* has been carried by the wind as far as the Siberian coast. The search must be extended to that zone. The area to explore is enormously vast, and it will not be an easy undertaking."

Nansen too recognized the necessity of making a minute reconnaissance of the region with aeroplanes and seaplanes supported by specially stout ships or by ice-breakers; but he considered that an airship would be more useful than the heavier-than-air machines and advised that application should be made to England for one which could be anchored to a mooring-mast to be erected on the eastern coast of North-East Land.

To my definite question, "What steps would you take, Professor, if you were called to direct the rescue operations?" he replied: "I would send a ship to North-East Land and an ice-breaker to Franz Josef Land."

"And to Spitsbergen?"

"A very close reconnaissance of the northern coast of Western Spitsbergen," replied Nansen, "is not, in my opinion, indispensable, because if the crew of the *Italia* have come down in that zone, they will sooner or later return to King's Bay. Explorers, especially at this season, have every chance of secur-

ing excellent food. The coasts are frequented by fishermen, and the rescue of the expedition can be only a question of time. A return from North-East Land, however, is more difficult, because hunters and fishermen are rarer; while a return from Franz Josef Land is impossible without outside assistance, because those regions are visited neither by ships nor by hunters."

In conclusion, Nansen prophetically declared:

"Much depends, naturally, on the nature of the accident, and on the conditions in which the landing has taken place. But, even admitting that the descent has been made in difficult circumstances, the view that all the members of the expedition have perished cannot be accepted. Certainly in these regions it is not enough to be only a fine Alpine expert; it is necessary to have also particular experience of the Polar ice-fields. In any case, you will see that finally the expedition, or the majority of it, will be saved. But certainly it is necessary to act quickly and energetically."

Identical ideas were expressed by Professor Hoel, indisputably the man with the deepest knowledge of Spitsbergen, and President of the Norwegian Society for research and study in that region, who was adviser to Nobile while the voyage was being organized, and who later rendered splendid service during the first expedition of the *Krassin*. In a conversa-

tion I had with him at the time, the Norwegian scientist said to me:

"Several weeks may pass, but the expedition cannot fail to be traced by someone. As to the possibilities of rescue, my opinion is that the *Città di Milano,* the *Hobby,* and the *Braganza* cannot lend really effective assistance. The *Città di Milano* is totally unsuitable, while the other two vessels are too small. The *Braganza,* the better of the two, has a displacement of only 350 tons, and her machinery is too weak for the undertaking. To reach quickly the northern coasts of Spitsbergen, an ice-breaker of at least 10,000 tons with engines of 10,000 to 12,000 h.p. is necessary. Only with a similar boat can the work of rescue be attempted with every probability of success; if the attempt, which is not extremely difficult or yet easy, were made with insufficient means, it might end in a catastrophe. Ice-breakers such as I have indicated are owned by Russia, Sweden, and Finland. Russia is in the most favourable position. From Archangel she might dispatch one in about four days. The ice outside Archangel has not melted, but at the present time it is thin and the ship would be able to reach the Barents Sea without difficulty, and from there the northern coast of Spitsbergen. If aeroplanes and seaplanes with a wide cruising radius were used, the reconnaissance work ought not to present great diffi-

culties. This work, with the support of a stout ship, represents, in my opinion, the only effective and rapid way of bringing help to the expedition. Nobody knows in what circumstances the landing has taken place. The silence of the small field wireless station which the *Italia* had on board may give rise to anxiety, but in any case there can be no doubt that all, or almost all, of the members of the expedition are still alive. Most probably they are in no immediate danger, but it is obvious that prompt and, above all, energetic action is necessary."

And Otto Sverdrup, perhaps the most famous explorer in Norway after Nansen, and called the King of the Arctic, told me a few hours later:

"Personally I consider that it is necessary first of all to explore with the greatest care the northern coasts of Spitsbergen, North-East Land, and the pack-ice to the north of this region. The search may, perhaps, have to be extended to Franz Josef Land, but I do not consider that the *Italia* has been carried so far as that. In these regions the fog is thick, and many precautions will have to be taken so as not to endanger the lives of the rescue parties. Anyhow, the rescuers, as far as one can judge, have several weeks before them, because the worst fogs begin only in the second half of June and last for the whole of July. An ice-breaker will be indispensable for the exploration of Franz Josef Land and Nova

Zembla. The only suitable ice-breaker that I know of is the *Sviatogor* (*Krassin*)."

To explain the great faith of Sverdrup in the efficiency of the *Krassin*—a faith which was afterwards shown to be thoroughly well-founded—one may recall that in 1920, three years after it had been launched, the *Krassin* (then called the *Sviatogor*) took part, under the command of the courageous Norwegian explorer himself, in a great rescue operation in the Polar seas. The rudder of the ice-breaker *Solovej Budimirovic* had been smashed in the Kara Sea, and with eighty-seven persons on board she was being carried by drifting ice in the direction of Franz Josef Land. The vessel was short of food and fuel. The Russian Government offered to Sverdrup the task of saving the endangered crew, and the ex-captain of the *Fram* accepted the mission with enthusiasm. The *Solovej Budimirovic* was lying at a point 72° 50′ lat. N. and 63° 18′ long. E. Greenwich. After several days of difficult navigation among the ice-fields, the *Sviatogor* sighted the stricken vessel. Progress was very slow, but the powerful ice-breaker opened a passage for herself until she succeeded in getting alongside, establishing safe communication, and finally saving the helpless *Solovej Budimirovic*.

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In this way the idea of using an ice-breaker grew

more and more strongly upon the Relief Committees and the Governments of Italy, the Scandinavian countries, and Russia. Meanwhile the organization of relief measures proceeded with increasing intensity. Captain Tornberg, instructed by the head of the Swedish military air arm, General Amundsen, to draw up a plan of collaboration with the Norwegian aviators, reached Oslo on May 31 in order to meet Rijser Larsen. At this meeting, which took place at Horten, under the chairmanship of Captain Von der Lippe, it was decided, with the approval of the Swedish Rikstad, to dispatch to Spitsbergen some Swedish machines and the two vessels *Quest* and *Tanya*. In the evening Rijser Larsen left for Bergen, where he embarked in the collier *Inger IV* with his machine in order to join Luetzow Holm, who was already with the *Hobby* in the Barents Sea, at Spitsbergen, and to begin reconnaissance flights with him. And while in Italy the Milanese Committee had decided to organize the great Italian aerial expedition, there was formed at Moscow, under the chairmanship of the Vice-Commissioner for War, Unschlicht, and the Chief of the General Staff, Kameneff, the Nobile Relief Committee, which studied the possibility of sending an ice-breaker.

Thus we reach the fateful day, June 5, when S.O.S. appeals for help first began to be heard faintly in many countries. The first of these mes-

sages would actually seem to have been picked up by the Russian agriculturist Schmidt, proprietor of a farm in the village of Vosmessenle Vochmy, near Archangel. But other messages were received, as will be remembered, in California, Sweden, and by steamers in the Gulf of Bothnia. These messages included all the words *"S.O.S. Italia Nobile,"* but some placed the signal *"S.O.S."* before and others after the two words.

This difference gave rise to doubts as to the authenticity of the messages. During the first two days they were thought not to be appeals coming from the *Italia,* but messages dispatched by the *Città di Milano* or by a Russian station that was sending details to the seal hunters spread amongst the ice regions to advise them of the accident that had befallen the airship. A wireless amateur also declared that he had intercepted a message, the text of which he read as *"S.O.S. Italia Nobile Terra Francesco Giuseppe."* This message too actually came from the castaways. The misunderstanding as to the Terra di Francesco Giuseppe (Franz Josef Land), as Biagi explained to me later, arose from the fact that in several appeals sent out by Biagi the indication *"circa isola Foyn"* (*near Foyn Island*), which the inexpert amateur translated as *"Franz Josef Land,"* was added to the figures of the latitude and longitude.

In any case the news stirred the world in general, and on June 8 direct communication was established between the *Città di Milano* and the wrecked crew.

The joy with which the news of the miracle was received in Norway was in no sense less than that which in those days filled the hearts of all in Italy. Special editions of the Oslo newspapers followed one another from the early hours of the morning up to the last thing at night. The editorial departments had opened information offices at which anyone might apply for the latest news. The managers of the big hotels kept their guests informed of the latest developments by means of multigraphed sheets.

Fridtjof Nansen, Sverdrup, Amundsen, and others with an intimate knowledge of the Polar regions, when again interviewed and urged to draw up rescue plans, were unanimous in declaring that the point where the *Italia* had crashed was particularly difficult to reach, as much from the west as from the east, by means of ordinary ships, and that help from the air could be given only by aeroplanes and seaplanes having a wide cruising radius.

The plan to employ an ice-breaker was warmly discussed anew. The conversations between the Italian authorities and the representatives of the Soviet Government and of the Russian Relief Committee entered upon a decisive phase and ended with the making of preparations for the dispatch into the

The *Città di Milano* at King's Bay

Arctic regions of the ice-breaker *Krassin,* the most powerful vessel of its kind in Europe. On June 10, the negotiations between Italy and Russia concerning the financial side of the undertaking having been concluded, Professor Samoilovic, chairman of the Institute for Arctic Studies, was appointed head of the expedition. The Committee allowed five days in which to prepare the vessel, and on June 15 the *Krassin* left the port of Leningrad.

One heard on all sides the exhortation: "Do not lose a single hour now; the brief summer is upon you; and nobody can foresee the effects that the sun and the changing winds will have on the pack-ice, on which the stranded explorers are lying."

There was a noble competition among the nations to succour the daring explorers of the Arctic regions. Italy, Norway, Sweden, Finland, Russia, and finally France vied with each other in the ambition to arrive at the earliest possible moment at the tent of General Nobile and to snatch him and his party from their deadly peril.

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It was in those days, while Maddalena and Penso were boldly flying towards King's Bay, that Amundsen, himself impatient to share in the great work of rescue, after the failure of the negotiations for the organization of an expedition of his own with Dietrichson and financed by Ellsworth, and after a

vain attempt to raise in Norway or Germany the sum of 200,000 marks for the purchase of a big Junkers or Dornier machine, asked for and obtained from France the *Latham* seaplane which afterwards was to disappear in the Arctic wastes.

Poor courageous Amundsen! I wish that these words were not an obituary; but how is it possible to-day still to nourish the hope that he may be found alive with his daring companions?

Amundsen left Oslo by rail on the evening of June 16 for Bergen. Accompanying him were the brave Dietrichson and Captain Wisting, friend and trusty collaborator. There was a big crowd at the station, including the Italian Minister Count Senni, the First Secretary Baron di Giura, the indefatigable Chancellor Cav. Conti, Italian journalists, the editors of the big Oslo newspapers, representatives of the Norwegian Government, friends of Amundsen—and friends he had in plenty—and numerous admirers of the popular explorer. There was also the wife of Dietrichson, a young woman with curly fair hair and fine blue eyes. Dietrichson shook his wife's hand, wished her a calm "Good-bye" just as if he were leaving for an ordinary excursion, and disappeared into his carriage. Amundsen, on the other hand, remained at the window until the train had left the station, waving his hand in reply to the farewell of the hundreds of persons packed on the platform.

This demonstration was not to be regarded as the expression of good wishes alone; it was also intended to celebrate an anniversary; Roald Amundsen, "the White Eagle of Norway," left, in fact, for his first Polar expedition on June 17, 1903, exactly twenty-five years before. On board the little whaler *Gjôa,* a tiny vessel of forty-seven tons, purchased after great financial difficulties had been overcome, he sailed on that date from Oslo, then called Christiania, and began the famous three years' voyage in his attempt to discover the North-West Passage.

Poor Amundsen! I had visited him a few days before in his fine villa at Svartskog, a motor-drive of about one and a half hours from Oslo. The car had been somewhat tried in ascending the steep and difficult roads of the Alpine region which stretches to within a few miles of the Norwegian capital. Several times the chauffeur had had to ask for the right road, but even before he could pronounce the names of Amundsen or Svartskog the peasants showed him with a wave of the arm the road to take. And, in fact, whom might a foreigner be seeking, in that deserted locality, but Amundsen?

At Svartskog the motor-car stopped before a large villa built of wood, like all the country houses in Norway, and painted in light grey. In front of the villa, which Amundsen's friends had more than

once with difficulty kept for him by silencing the creditors to whom he had had to resort in order to organize his expeditions, lay a garden kept with the scrupulous care and good taste of the Northern peoples. The garden sloped down gradually to the fiord, an immense expanse of water, almost an open sea, of a cobalt blue colour, smooth and sparkling like a mirror in the sun.

Amundsen had received me with great courtesy. In those days he was negotiating with Ellsworth for an American-Norwegian expedition and had the utmost confidence in the result of the conversations.

"What is indispensable," he remarked, "is the utmost speed and energy. Only one who has been blocked for three weeks by the ice knows what this means and knows that assistance in these cases can never be too rapid. There is a sentiment of solidarity which must bind men, especially those who risk their lives for the cause of science. Before this sentiment our personal resentments must disappear. Anything that has disturbed my relations with General Nobile has been forgotten for some time. Today I see one thing only. General Nobile and his companions are in danger, and it is necessary to do everything that is humanly possible to save them."

After having mentioned the offers that he was continually receiving from brave men who wished to share in the work of rescue, Amundsen concluded:

Amundsen

"In the next few days I shall make a choice of the personnel, mechanics, wireless operators, and pilots, who are to accompany us. I shall have under my orders the very best men, with whom, I am certain, we shall succeed. If other expeditions arrive, we will willingly collaborate with them. The question is not who will arrive first or who will do the most, but rather that the situation is growing worse from day to day. From now onwards the fogs in those regions become more frequent and thicker; they might become an insurmountable obstacle to aerial exploration. For this reason, I repeat, it is necessary to act with the greatest promptitude."

Now and again Amundsen got up and walked to a corner of the large hall to listen to the wireless set which just at that hour (somewhere about five in the afternoon) was transmitting the latest news. He returned to his chair obviously disappointed. The confirmation for which he was waiting of the successful outcome of the negotiations with Ellsworth was late in coming. While speaking of his Polar flight, the explorer raised his eyes to a beam from which hung a model of the Dornier Wal 25 used by him. At times his glance melted into space. He was living again the hours spent on the boundless Polar pack-ice. At one such moment he exclaimed:

"Ah! if you only knew how splendid it is up

there! That's where I want to die; and I wish only that death will come to me chivalrously, will overtake me in the fulfilment of a high mission, quickly, without suffering. And this I hope for, because for over thirty years, from the time of the Belgian expedition in 1897, I have learned to defend myself well against the scurvy, the only danger I need seriously fear in those regions."

This wish of the great explorer was, in all probability, granted.

On June 21 I started for Bergen, where the *Krassin* had arrived in the afternoon in order to coal.

CHAPTER II

THE VOYAGE OF THE KRASSIN

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THE VOYAGE OF THE *KRASSIN*

The departure from Bergen—The *Krassin* and her crew—Samoilovic, Oras and Tschuchnovski—The ship's newspaper—A lady journalist—The first ice is sighted—Life on board—No etiquette—A kitchen committee—The shortage of fresh water—Discussions and readings—Wireless and the censorship.

THE Terminus Hotel at Bergen was in those days the general headquarters of the numerous Polar relief expeditions. Here were to be found the men in command of the *Krassin,* Norwegian journalists, members of the Soviet Diplomatic Corps, Captain Wisting, Professor Hoel, and French officers who were to embark in the dispatch-boat *Quentin Roosevelt* and the cruiser *Strasbourg,* the vessels sent out to search for Amundsen.

It might be well to explain here what had happened to Amundsen. On June 14, a few days after the marooned crew of the *Italia* had succeeded in communicating by wireless with the *Città di Milano* anchored at King's Bay, the French Government generously placed at the disposal of Amundsen the seaplane *Latham 47,* on which the airman Guilbaud was to have attempted to cross the Atlantic. Guil-

baud was one of the best pilots of the French Navy, and had successfully completed several long flights in Africa. On June 16 the *Latham 47* left Caudebec-en-Caux, near Rouen, for Bergen, having on board, besides Captain Guilbaud, Lieutenant de Cuverville, the wireless operator Valette, and the mechanic Brazi. On June 17, after having taken on board Amundsen and Dietrichson, the *Latham* left Bergen for Tromsö, whence in the afternoon of the 18th it began the flight to King's Bay. Since then nothing has been heard of it, and to-day all hope of the safe return of the great Norwegian explorer and his intrepid companions has been abandoned. It seems certain that they met their death during the crossing following a failure of the seaplane, as pieces of wreckage of the *Latham* have been picked up here and there in the Barents Sea.

Day and night the machinery of the port poured into the hold and on to the deck of the *Krassin* mountains of Cardiff coal which the Italian authorities had been able to secure for the Russian expedition. The presence of the ice-breaker aroused keen interest among the population, and on several occasions the yard where loading was proceeding had to be closed to prevent the crowd from hindering the work.

I passed June 22 and 23 in the company of the Norwegian Professor Hoel, making arrangements

for our coming stay on board the *Krassin*. Professor Hoel had been enrolled as a member of the expedition in view of the valuable advice he might eventually be able to furnish the commander from his intimate knowledge of the regions in which the ship was to operate. Having been assured that, as far as could be foreseen, there would be no lack of victuals, we occupied ourselves in purchasing only such articles as the *Krassin* was not provided with, for example, clothes and linen for the castaways. At a big shop we bought ten complete suits, woollen caps and underwear, and a few toilet necessities. For myself I laid in a supply of biscuits, lemon-juice, and whisky, in addition to some woollen underwear; of other Polar necessaries there were already sufficient on board.

Thus equipped, we installed ourselves, on the evening of June 23, on board the *Krassin,* which was taking in the last of her cargo. The First Secretary of the Soviet Legation at Oslo, Mirny, embraced and kissed the officers with that pathos which the Russians are in the habit of showing in all their outward manifestations. At 1.30 a.m. on the 24th the *Krassin* weighed anchor.

In spite of the rain, several dozen boats crowded with curious spectators had remained near the ice-breaker since the afternoon, exchanging greetings with the crew. As the vessel slowly moved away, a

shout of "Save Amundsen" burst from the throats of the crowd which, notwithstanding the late hour, thronged the quay. The ships in port saluted us with blasts from their sirens, and the passengers of a large German tourist steamer continued for a long time to wave their handkerchiefs and hats. After about five hours we were steaming in the open sea. The *Krassin* was able to push forward at the maximum speed permitted by her engines and cargo—about 11 knots.

The Russian ice-breaker had been out of service for two years, and, therefore, when the Soviet Government's order to put her immediately into thorough efficiency reached the harbour-master's office at Leningrad, the vessel was almost completely laid up. In addition, the usual crew of the *Krassin* had become scattered and was either on leave or employed in other ships. I was afterwards told that the captain of the *Krassin* had declined the task, considering that the difficulties to be overcome were too great and that the ice-breaker could not be got ready for sea in the short period that had been fixed.

Thus it was that the choice of an officer to command the vessel fell on Captain Eggi, of the ice-breaker *Lenin,* who in the five days allowed him was able to get together a crew on which he could safely rely for an undertaking full of risk and unknown possibilities. He succeeded, too, in coaling

King's Bay

and getting on board the necessary stores and water in time. The vessel started out in conditions which were anything but ideal. The three-engine Junkers aeroplane which, with a fine sense of intuition, was considered from the first day as an important auxiliary to the ice-breaker in the task it had to perform, had been secured to the deck inside a sort of strong crate formed of thick logs of wood. This gigantic erection almost completely obstructed all movement from bows to stern, and the rest of the deck was encumbered with petrol-cans and heaps of coal. At Bergen about 2,000 tons of Welsh coal had been taken on board, and including the stocks already in the bunkers the vessel was carrying some 3,200 tons of fuel. As there had been no time for cleaning, a layer of black filth covered everything above deck. For several days, until the persistent rain had washed the ship and the heaps of coal lying on deck had been used, life on board was bearable only in the mess-room in the bows of the vessel. Below deck, too, defects and discomforts were many, but all, without distinction, from the head of the expedition, Professor Samoilovic, to the last sailor, showed themselves animated by a lofty spirit of self-sacrifice.

The ice-breaker *Krassin,* built at Newcastle in 1917, was originally intended for use in keeping the approaches to the ports of Archangel and Mur-

mansk free from ice for the ships of the Allies. With a length of 98 metres, a breadth of 21.60 metres, and strongly armoured in steel, the vessel, which with its rounded sides presents a rather squat and stumpy appearance, has a displacement of 10,000 tons. Its three engines develop a total horse-power of 10,500. As the ship was built for purely official services, she has only a few cabins for the captain and officers. Many of the relief expedition had to sleep as best they could, throughout the whole of the voyage, on the cushioned sofas in the one small dining-saloon and in the mess-room in the bows or in the passages. Professor Hoel and I were provided with a sofa in a corner of the mess-room, the remaining sofas in which were occupied by the Russian journalists.

In all there were 138 persons on board the *Krassin*. The crew numbered 110 and there were four wireless operators, the pilots and mechanics of the Junkers aeroplane, and seven Russian journalists representing the leading newspapers of Moscow and Leningrad. Among the journalists was the young and charming Mme. Worontzowa, a slight figure with a pleasant and intelligent little face, who later on became the kind and patient nurse of the heroic Captain Mariano. This pleasant colleague, together with Xenia, a still-young cook who for ten years had been one of the regular crew of

the *Krassin,* were the only representatives on board of the so-called weaker sex.

The head of the expedition, as has been stated, was the geologist Professor Rodolfo Samoilovic, President of the Institute of Arctic Studies. Forty-five years of age, Samoilovic had to his credit thirteen explorations in the Arctic regions. Before the war he had closely explored the interior of Nova Zembla, and after the Revolution he had been engaged in erecting wireless stations in the most northerly regions of the immense territory of Soviet Russia. Although not actively engaged in politics, Samoilovic enjoys the warm sympathy of and is greatly esteemed in Russian official circles, and his choice as leader was undoubtedly a happy one.

The representative of the Russian Government on board the *Krassin* was the naval engineer Paul Oras, a young and able officer who had held with varying success several posts of trust abroad. The name of Oras appeared in the international Press in December 1917, when as Russian Naval Attaché at Stockholm he was implicated in an incident which compelled his Government to recall him. Cultured, a master of various languages, including the Scandinavian ones, he was throughout the whole voyage not only an energetic chief but a pleasant companion.

Another notable figure was the young aviator,

Boris Tschuchnovski, also a naval engineer, who, in spite of his youth—he is barely thirty years old—has a brilliant flying record to his credit. Much of his flying has been done in the Polar regions, and he has done much exploration work in Nova Zembla. Of slight and almost feminine appearance, he did not give the impression at first sight of being adapted to resist the heavy fatigues of a Polar expedition. Time, however, showed that the enterprise had in Tschuchnovski a most precious collaborator.

Samoilovic, Oras, and Tschuchnovski formed the directorate of the expedition on board the *Krassin,* while to Captain Eggi fell the technical duties as the effective captain of the vessel. Eggi, an Esthonian, is a man who has risen from the bottom rung of the ladder, and watching him in his fatigue dress, with jack-boots and tightly belted jacket, always to the fore when there was any difficult and heavy job to be done, one could distinguish him from the common sailors merely by his powerful figure and by the confident gestures of one who is accustomed to command. He is a veteran of the ice-fields. When, thirty-five years ago, the steamer *Zar* saved the crew of the English steamship *Volturno* which was on fire in the North Sea during a storm, Eggi, then a boy of thirteen, showed such prowess and valour as to earn a special reward from the British Government. For the last twelve years he has been cap-

Madame Worontzowa, a Young Russian Journalist on Board the *Krassin*

tain of the ice-breaker *Lenin,* a similar vessel to the *Krassin* but less powerful, which carries out every year in the Baltic Sea the heavy and dangerous work of opening a passage in the ice for the long lines of vessels which enter and leave the port of Leningrad.

The first officer was Ponomarow, who is considered by the Russians one of the finest men afloat, and who has completed several expeditions in the Kara Sea, where in early spring Russian ships break a passage through the ice in order to reach the little coastal stations and take on board the "bag" from the year's hunting. To have participated in an expedition in the Kara Sea is considered by Russian sailors a great honour, in view of the hardships and difficulties which have to be faced.

The second officer was Brennkopf, a Lett, captain of an ice-breaker, who had offered his services voluntarily. The third officer was Pietrow, ex-officer of the Baltic Fleet and brother of the ex-Naval Attaché of the Tsarist Government at Stockholm. The fourth officer was Lexdin, a Lett, who in the ordinary way serves in the ice-breaker *Truvor.* There were on board several other agreeable people: the meteorologist Beretskin, attached to the Hydrographic Department of the Russian Admiralty, and the ship's medical officer, Dr. Sriedniewski, who attended the crew of the wrecked airship, and particularly Captain Mariano, with brotherly solicitude.

Among the warrant-officers, too, there were some notable types. Chief among them were the first wireless operator Eckstein, and the chief mechanic of the Junkers aeroplane, Viadotow, decorated with the Order of the Russian Flag for having sunk off Ociakow in the Black Sea a torpedo-boat and a scouting vessel of the White Fleet of Wrangel.

I was on the most cordial terms with these travelling companions, whose life I shared for over a month, and I had nothing but courteous attentions from the crew. Politics were never mentioned on board the *Krassin* throughout the whole expedition, and even the anniversary of the Soviet Constitution was celebrated by the officers and crew with extreme simplicity, only a small glass of vodka being issued to all.

The crew was composed of fine men, trained to work in the Arctic regions, accustomed to exertion, keen to share in an historic enterprise, proud of the trust placed in them by the Russian Committee and the commander of the ship, and happy to be able to earn a wage paid in good money. Their enthusiasm was shown not only by words but by deeds, for right from the day when the expedition was decided upon they voluntarily waived the eight-hour day, which in Russia is considered by the Soviet régime as an irrevocable conquest of the Revolution.

Throughout the expedition I never became aware of any ill-temper or of the least lack of discipline.

Almost all on board spoke more than one language, with the exception of Captain Eggi, who spoke only Russian and whose knowledge of the English langauge was limited to the words, "The *Krassin* is a very strong ship." Professor Samoilovic, who had studied in Germany, spoke German excellently and French and English well. Captain Oras, who had spent most of his career abroad, spoke, in addition to French, German, and English, the Scandinavian languages, and understood a little Italian. Tschuchnovski used German and French fluently. Among the crew there were many sailors who, being of German origin or having before the war served in vessels belonging to international companies, were able to express themselves correctly in German or English. During the whole trip, therefore, I was able to converse with almost all the men of the crew. This was of great service to me later on, when, during such times as the ship was blocked by the ice, we made excursions on the pack-ice which were sometimes not altogether free from danger.

During the early days of the voyage my Russian colleagues brought out a small newspaper entitled *Our Expedition,* containing short leading articles, geographical and scientific explanations concerning the regions where the ice-breaker was to work, and

caricatures of the leading personalities of the expedition. Later on, when events crowding upon us one after another made it impossible to publish the complete newspaper more than once a day, the system of issuing bulletins was adopted. These were posted up in the mess-rooms of the crew and distributed just as if they were "special editions."

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The first two days of the voyage were for me the most painful of the whole trip. Because of the heavy tonnage of the *Krassin,* we were compelled to keep to the open sea outside the fiords, which were covered by very low clouds. Every inch of the ship emitted a stench which took one's breath away. From the hold, which had evidently been closed for years, arose clouds of foul vapour, and it was difficult to breathe in the mess-room in the bows, crowded day and night. One literally wallowed in black mud on the main deck and on the bridge. During these first two days I succeeded in swallowing only a few sips of tea. It was excellent tea, but as it was made with the ordinary water from the boilers, it had lost all flavour and become just an unrecognizable insipid warm beverage. The sun, which welcomed us at the northern extremity of Norway, dried the dampness with which the hold was saturated, and the unpleasant smells that had emanated from every square inch of the vessel disappeared. The rain of the first two

From left to right, the Airman Tschuchnovski, Professor Samoilovic, and Commander Oras on Board the *Krassin*

days, together with energetic washing, cleansed the outside of the vessel, and the upper deck then became our natural meeting-place and observation-point.

As the western route we were following was not the one used by the mail-boats and big vessels which carry on the coasting trade along the western coast of Norway, we encountered only rare colliers and several timber ships coming from Archangel and making for England. When we passed at a short distance, the crews of such vessels made clear, by standing stock-still, their surprise at meeting the majestic ship with the strange outline that they had never previously seen. Once we had to stop in a narrow fiord for several hours to wait for high tide, and the whole population of a neighbouring village came out to us in rowing boats and motor-boats to admire at close range the unusual ship with her two yellow funnels on which the big star of the Soviets stood out boldly in red.

Having crossed the Arctic Circle at 2 a.m. on June 27 under a splendid northern sun, the *Krassin* stopped for a short time off Andenes, to the south-west of Tromsö. Here the pilots, who by Norwegian law must accompany every foreign vessel navigating the territorial waters of Norway, left the ship in a little boat which was waiting for them, and after a very careful examination of our instruments,

we continued our course northwards and entered the Barents Sea. We were now left entirely to our own resources, but we were sustained by an unshakable faith in the successful outcome of our mission.

Notwithstanding her heavy cargo, the ship made fairly rapid progress. The average speed maintained was about 11½ knots. Before leaving Bergen, the commander of the *Krassin,* in response to urgent requests from various parts that he should explore carefully the waters near Bear Island, had promised to make diligent search as far as was possible in the short time available. Expert sailors were stationed in the ship's tops and on the iron stairways of the funnels throughout the day of Wednesday, June 27, and the night of the 27th–28th, but approaching Bear Island we were surprised by a thin fog, which made observation difficult. As a matter of fact, it was extremely unlikely that Amundsen and his brave companions were on that day in the waters that we crossed.

At 3 a.m. on Thursday the 28th we sighted Bear Island a long distance away, shrouded in mist. When fog is encountered in the Barents Sea, it nearly always means that ice is near, and in fact on the afternoon of the same day we came into contact with the first big floes. They were some of those fragments of the ice-fields carried along by the Cape South stream, which sweeps round Spitsbergen to

the south and reascends the west coast up to Nordenskiöld Land. It was here that the *Krassin* honourably passed her first test in this expedition.

As the large ice-floes were not close—they were surrounded by large tracts of water—they did not cause the *Krassin* the slightest difficulty. She reduced her speed to 6 miles an hour and continued her advance amid a deafening noise. The impression made upon me during the first few hours was anything but pleasant. The high bows of the vessel mounting on to the ice, smashed it with their formidable weight, reinforced by the speed of the ship, and the pieces as they returned to the surface struck against the steel sides of the ship and raised a tall curtain of spray which reached as high as the bridge. Below decks these encounters gave one the impression of a succession of explosions, of "drum-fire" striking the metallic hull, which, owing to its being empty along the sides (into which large tanks, the use of which we shall see later, had been built), intensified the din.

Navigation among the drifting ice-floes lasted thirty-four hours, and it was only late on the evening of June 29 that suddenly the fog dispersed and against the background of a pure blue sky there appeared the western coast of Prince Charles Foreland, the long island which flanks West Spitsbergen

on the west from the Ice Fiord almost to King's Bay.

In the wonderfully blue waters of the Norwegian Sea the *Krassin* continued at her normal speed. In previous wireless communications exchanged between the Russian ice-breaker and the *Città di Milano,* it had been suggested that the *Krassin* might call at Green Harbour to take on board a team of dogs, but as this would have taken too much time, the idea was abandoned and the *Krassin* continued on a direct route.

Early on the morning of Saturday, June 30, having doubled Amsterdam Island, we passed Virgo Bay, where the *Città di Milano* was anchored. Some time afterwards General Nobile, who, following the daring flight of Lundborg, had been on board the *Città di Milano* since the 24th, telegraphed to Professor Samoilovic deploring the fact that, as the *Krassin* had not stopped at King's Bay, it had not been possible for him to meet the head of the Russian expedition and to give him information which might have proved useful. Professor Samoilovic replied, explaining that, owing to the shallow depth of the soundings, the *Krassin* could not put in to Virgo Bay, and proposing that the *Città di Milano* should come out to the ice-breaker. General Nobile said that this was impossible.

Twenty miles to the north of Red Bay we en-

Lundborg

countered the first close-ice, the forerunner of the pack-ice. On that day the position of the Viglieri group was 9 miles north of Great Island (to the east of Cape Leigh Smith) with a slight drift to the east.

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With the appearance of the big ice-fields, life on board took on a markedly Polar character. Officers and men donned sheepskin garments and the heavy Russian winter jack-boots. The temperature, however, was mild, and it kept so, except on a few stormy days, throughout the search. Generally the thermometer was one or two degrees above freezing-point, so that, with the exception of a few days when a north wind was blowing, it was possible to remain at any hour of the day or night on deck under the mild and golden northern sun. The absence of any difference between night and day gave a singularly uniform note to life on board. At 2 or 3 o'clock in the morning the upper deck and the mess-room in the bows were crowded with officers, members of the scientific mission, and journalists. In the afternoon nobody aboard the *Krassin,* except, perhaps, the captain, who was most scrupulous in observing regular habits, felt like going to bed—perhaps because very few in the ice-breaker had a bunk to turn into. Never in my life have I slept so little as during this memorable expedition.

The kitchen officially began its labours at 6 a.m. for the officers on duty during the morning. Tea, bread, butter, cheese, and sausage were served. This form of breakfast was available for the benefit of the various messes up to about 11 a.m., when the first lunches began to be served. The mess-room in the bows of the *Krassin* accommodates not more than sixteen or seventeen officers when the ice-breaker is engaged on normal duties, but it now had to serve for about forty people. Accordingly several services were necessary; not that these were ever scrupulously observed.

On board the *Krassin* etiquette was completely dispensed with, and the head of the expedition, Samoilovic, Captain Eggi, and Commander Oras took the first places they found vacant, seating themselves alongside the lower ratings. United by the lofty aim and the risks of the enterprise, officers and sailors formed something resembling a big family without any loss of discipline.

Lunch was followed by a full discussion on the state of the ice and the wind, the possible progress that the *Krassin* would make during the day, and the news received by wireless. These conversations, cordial and animated, lasted till tea-time, which found officers and journalists again gathered in the little dining-saloon. At 6 p.m. dinner began to be served, and at 10 p.m. the last meal of the day was

taken. It consisted of tea, bread, butter, cheese, etc. The food was plentiful, although not always very tasty, at least to an Italian palate. There was only one kitchen on board, so that officers and sailors fared the same—a consequence, perhaps, of the new régime.

A small so-called "kitchen committee," composed of the ship's doctor, Sriedniewski, the second officer, Brennkopf, and a representative of the crew, Dologopotow, was appointed by the head of the expedition, Samoilovic, when the voyage began. It watched over the distribution and use of the victuals. In the absence of fresh meat and vegetables, considerable use was made of dried fish and preserved meat and vegetables. A large supply of potatoes had providentially been taken on board. These throughout the voyage formed perhaps the most important item of food and contributed largely to the maintenance of the expedition in excellent health. In fact, except for one or two cases of slight poisoning, which had no serious consequences, no illness appeared on board. During the first two weeks black bread brought from Leningrad was eaten. Then day by day white bread, excellent in taste and quality, was baked.

At the end of the second week of the voyage the first rations of chocolate were distributed, and these increased as the expedition pushed its way farther

into the ice. The use of alcohol on board the Russian ship was throughout the trip extremely limited: a small ration of vodka was distributed weekly only after July 4. Coffee, wines, and liqueurs never made their appearance on our table; instead there was an abundance of cigarettes, of which every member of the expedition received a ration of ten packets every Saturday.

What was rather painfully felt by all was a serious lack of fresh water. After the ship left Bergen the fresh-water taps were closed, and with the exception of the captain nobody, except on very rare occasions, had a chance of making a really careful toilet. Drinking-water was also very scarce. But this was a necessity, to which we all submitted with good grace. The distillation of sea-water would have required too much coal, and fuel was an extremely precious factor in the success of the expedition. Providential for me on many occasions was the simple but kindly attention of Xenia the cook, who used to bring me a glass or so of fresh water with which I attempted for weeks together to solve the problem of personal cleanliness. But afterwards we all lost the sense of cleanliness.

In spite of these shortcomings, good humour always reigned on board. At midnight, when the state of our wireless station allowed it, we used to intercept the communiqués of the Swedish Press.

The Crew of the *Krassin*

We were thus able to keep ourselves in touch with the most important events that were happening in the civilized world thousands of miles away from our steel ship struggling with the ice. In this way we learned what the big foreign newspapers were publishing about the progress of the *Krassin,* and became aware of the enormous interest with which our difficult advance was being followed by the whole world. Then when the discussions which inevitably followed the reception of the news bulletins began to slacken, young Mme. Worontzowa used to read to her compatriots, and her efforts, judging from the deep attention with which they were followed, must have been extremely interesting. Still, a person compelled to sleep on the corner sofas of the little saloon might have felt some doubts as to the beauties of Russian literature on Polar expeditions.

Wireless communication was, naturally, a very important factor for the expedition and for us journalists. Before leaving Leningrad there had been installed on the ice-breaker a small short-wave station, which in practice, however, did not give the results hoped for—so much so that after a few trials it was completely abandoned. This loss was deeply deplored, because the little instrument would have allowed the *Krassin* to communciate directly with Murmansk. The ship's normal station had a

power unit which, when it was first placed on board the ice-breaker in 1917, had already been in use for some years. The station had a range of about 500 miles, and at night, according to the chief wireless operator, Eckstein, could communicate up to 800 or 900 miles. But since even at night a warm and bright sun used to shine, we were never able to take advantage of this problematical efficiency. Within the certain range of 500 miles there was for a long time one single Norwegian station at Green Harbour, Spitsbergen. The commander of the *Krassin* and we journalists had some curious experiences with this station. At the outset the operators of the Spitsbergen station simply refused to enter into communication with the *Krassin;* we could never ascertain why. The commander and the journalists therefore found themselves faced by the first serious embarrassment.

To ensure communication with Moscow, the commander of the *Krassin* first transmitted telegrams to the ice-breaker *Malyghin,* which was operating among the ice floes east of North-East Land. But as the *Malyghin,* in execution of orders from Moscow, might at any moment have had to return to her base at Archangel, the Soviet authorities made some friendly protests to Oslo about the strange attitude taken up by the wireless operators at Green Harbour. As a result of this intervention,

the Norwegian Government evidently called upon their officials to pay a more intelligent attention to the regulations. In spite of this, however, the wireless service of the *Krassin* proved inadequate throughout the whole expedition, partly because of the enormous amount of work with which the able Russian operators had to cope, partly owing to the weakness of the installation on board the *Krassin,* but, perhaps, principally because of the weakness of the Norwegian stations.

The transmission of a 1,000-word telegram from the *Krassin* to the Norwegian station at Spitsbergen or North Cape in Norway sometimes took twelve or even eighteen hours. After the dispatch of 100 words, a stop was made to allow the station in question to accept communications from other stations or from ships in navigation. And let it be noted that, after the telegram had been accepted by the Spitsbergen station, it had to be retransmitted to that of North Cape, and thence forwarded to the ordinary telegraph offices which have direct lines to the big Norwegian cities.

The Russian journalists found themselves in a much better position, as the Moscow Government allowed them to use the services of the *Malyghin,* which in her turn quickly retransmitted the telegrams to Murmansk. This accounts for the Russian newspapers being fairly well supplied throughout

the expedition with news of the movements of the *Krassin*.

A censorship was in force on board the ice-breaker. In the case of the Russian journalists, this was chiefly in the hands of Captain Oras. In this connexion I almost always came into contact with Professor Samoilovic, who, I am glad to be able to say, always showed me the greatest courtesy. Not once, in fact, did Professor Samoilovic take exception to a single sentence or even to a single word of the telegrams that I sent to the *Corriere della Sera*. Naturally I was careful to see that my messages were completely objective and did not forget the duties incumbent upon me as a foreigner on board a vessel of the Russian State. In my case, therefore, the censorship in the *Krassin* was little more than a formality. It was natural that Professor Samoilovic, as head of the expedition, should wish first of all to inform the Moscow Committee of the progress of the operations, and it was only right that I should bear in mind this legitimate desire.

CHAPTER III

THE FLIGHT OF TSCHUCHNOVSKI

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The *Krassin's* first trial—A curious manœuvre—"Here's Dancing Michael!"—The *Krassin* a prisoner—The damage to the ship—A conversation with Professor Samoilovic—The anniversary of the Bolshevist Constitution—Preparing the Junkers aeroplane—Tschuchnovski flies over the ice-pack—His wireless messages—"King Charles . . . Malmgren"—The mishap to the aviator.

THE plan of the Russian expedition was to round Cape North (Spitsbergen) and to reach Cape Platen, leaving the Seven Islands to the north, and thence to make straight for the pack-ice, where the Viglieri group was lying. The group had drifted in various directions within an area some 15 miles north of Cape Leigh Smith. Compelled by her heavy tonnage and the very scanty knowledge that exists as to the soundings in these seas to keep as far away as possible from the northern coasts of Spitsbergen, the *Krassin* could not take advantage of the ice-free stretches of water which had allowed the *Braganza,* for example, to push on without great difficulty to Cape North, where she had established a base. It was necessary, therefore, from the very first to begin a desperate struggle

against the pack-ice, which was two or three yards thick and very close.

In this first great trial the *Krassin* justified up to the hilt the hopes placed by the Moscow Committee and her commander in her robust and clever design. Beneath her enormous weight the expanse of ice gave way with loud reports, and canals opened, reminding one of what happens when a big sheet of glass receives a violent blow at its edge. Gigantic blocks were hurled on to the ice which had remained unbroken, or plunged with a loud splash into the dark green waters, grating angrily down the sides of the ship.

The spectacle of this struggle of man against the forces of Nature was deeply impressive. For hundreds of yards around, the pack-ice crumbled beneath the formidable blows of the ice-breaker. Great hummocks of fantastic shape were pushed up like feathers, afterwards overturning and disappearing in the sea amidst columns of white foam. The white expanse seemed to be in convulsion as from the effects of a frightful earthquake, and while the *Krassin* laboriously advanced, noisily opening for herself a passage, the eyes of all on board scrutinized the shining ice-fields. Every ten minutes the sirens of the *Krassin* emitted piercing blasts in the hope that these might be heard by the Mariano group; but it was our fate to see nothing, with the exception

The *Krassin* Forcing Her Way through the Ice-Pack

gulls of ivory-white plumage and kittiwakes passed and repassed in swift flight, emitting shrill cries, which sounded like the laments of children. On that day, July 2, we saw the first Polar bears, and their appearance was greeted by the crew with loud cries of *"Michka pliachet!"* ("Here's Dancing Michael!").

It was the first time that a ship of so great a tonnage had penetrated into those regions, and we were proud of the "record" or rather of the "records," that the *Krassin* was making. Professor Hoel, a living encyclopædia in all that appertains to scientific knowledge of Spitsbergen, assured us that the history of Polar expeditions contained no record of even small whalers reaching such a latitude by the early days of July. Navigation to the north of the Seven Islands is normally possible only early in August, when the breaking-up of the ice enters its most active phase; in 1868 Nordenskiöld, on board the schooner *Sophia,* had to wait till the month of September in order to reach 81° lat. N.

Our hopes of finding the ice in better condition more to the north of the course prearranged were not realized. To the east of the Seven Islands we found the pack-ice in a chaotic state. Sometimes it was extremely close, but for the most part it was breaking up rapidly and was extremely friable. Compressed by the bows of the ice-breaker, this soft

mass ended by creating a barrier several yards high, which adhered to the sides of the *Krassin*. The progress of the ship slackened still further, and the attacks upon such a wall, which gave way without dispersing and accordingly without leaving a strip of open water for the ice-breaker, reduced the pace of the *Krassin* to but a few hundred yards an hour. Even where big fields of ice were encountered, the struggle became most difficult, as the thick layer of snow, rendered soft by the relatively mild temperature experienced at the time, acted something like a buffer, and deadened almost to the point of neutralizing completely the thrust from the catapult ship.

Thrice in the space of twelve hours did the strength of the ten powerful boilers of the *Krassin* fail to liberate us from the heavy pressure, and thrice was the commander compelled to have recourse to devices which are only used in an extremity. To port and to starboard, in the bows and at the stern, the hull of the *Krassin* is fitted with huge tanks which can be filled and emptied by means of pumps. When, for example, the weight of the vessel does not prove sufficient to shatter an obstinate point of the ice that has been attacked, it can be increased by seven hundred tons by filling the tanks in the bows. This manœuvre is, naturally, only resorted to when the breaking down of the ice

at a certain point may determine a favourable change in a given local situation. Such was not the case in this expedition, where similar obstacles were being met, one might say, at almost every step. When the ship, driven with all the power of its engines on to pack-ice which does not yield, finds itself too far forward, and the propellers fail, the engines are reversed, to take it back into the water, the stern tanks are filled, and the additional weight of several hundred tons of water thus obtained give useful assistance to the efforts of the engines.

Only one case is on record, in the history of ice-breaker operations, where a similar manœuvre failed to carry the vessel back to its natural element. This was in 1900, when the ice-breaker *Yermak*—a type similar to the *Krassin,* with engines of only 7,500 h.p. and built to the designs of the celebrated Russian Admiral Makaroff—was unable, during an expedition in the Polar seas, to return to the water after having been driven too far on to an immense ice-field. The vessel, after drifting for several months, was thrown against the land and badly damaged.

During our expedition it was found necessary to call into play only the lateral tanks. Beneath the weight of the torrents of water which enter one set of these, the ship rolls to one side, shattering, as she

does so, the ice which has accumulated against the corresponding side of the hull. Then the filled tanks are emptied, and the operation is repeated on the other side. The vessel regains her lost freedom of movement and can draw back in order to make another attack.

Captain Eggi attempted to keep our spirits up, saying that the struggle against the ice was a question of patience and of coal; finally we should see that even the Polar ice was not invincible; it was only a question of time. But it was not difficult to divine that these words did not spring from a deep conviction. Nearly all on board had the impression that the efficiency of the ship was no longer what it was in the early days of the battle against the ice-pack, as compact as granite, which had barred our way south of the Seven Islands; and while the advance of the vessel became ever more laborious, a strong drift caused us to lose about a mile an hour.

In an attempt to find a more navigable area, the course was again changed. For several hours we again steamed southwards, but without any great results. On July 3 at midday, about 17 miles east of the island of Little Table, a very strong north wind began to blow, and this started the pack-ice moving towards the coast, making it even more compact.

In four hours, from 4 to 8 p.m., on that day, the *Krassin* advanced hardly a mile and burnt 20 tons of coal.

The concern of the commander of the vessel then began to show itself. The *Braganza,* whose two masts we could see in the far distance, was blocked by the ice near Parry Island. The *Malyghin* could not advance. The Russian airman Babuschkin had disappeared during an exploration flight. There was no news of the gallant aviators of the *Latham.* Fog prevented the Italian pilots, Maddalena and Penzo, and the Swedish airmen from continuing their daring reconnaissance flights towards the tent of the Viglieri group. And, as if all this were not enough, the voice of the Red Tent had been silent for two days, in spite of all the efforts of the *Città di Milano* to keep in contact with the marooned men. An adverse fate seemed to be dogging the relief measures of the civilized world to save the castaways.

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That evening the commander of the ship, after an examination of the situation, decided to stop the vessel and to reduce coal consumption to the bare minimum necessary to provide the essential services. Our position at that moment was 80° 42′ lat. N. and 22° 57′ long. E. Through the mist Cape Platen was visible. The wind and the currents were causing us

The *Braganza* in the Ice Near Cape North

Photographed from the *Krassin*

to drift to the west at a rate which sometimes touched three-quarters of a mile an hour.

After dinner the sailors' council made application to Commander Oras to allow the crew to organize a shooting party. Guns and ammunition were distributed, skis of the most varied shapes were taken from the stores, and some thirty warrant officers and men, in company with Commander Oras himself, descended on to the ice, breaking up into groups across the white expanse. Almost everyone in the ship followed their example, and that night a great quiet reigned on board the *Krassin*. The pack-ice was explored for a radius of about three miles without any notable results. The hydrographer on board, Professor Beretskin, took some soundings and found that the ice was everywhere more than 2½ metres thick. The soft layer of granular snow was everywhere about 80 cm. deep. Professor Beretskin made observations on the temperature of the water and found that at a depth of 30 metres it was + 0.5° Cent. and at 100 metres reached + 1° Cent.

On July 4 the weather became splendid again, but the continuance of the north wind further increased the compactness of the ice towards the coast. This was the ice we had to force our way through to reach the Viglieri group. On all sides as far as the eye could reach the pack-ice stretched

in a solid mass. Not a canal, not a crevice was to be seen, and only big greenish-blue patches broke the shining whiteness, indicating the presence of little pools of fresh water, covered by a thin crust of ice, from which the crew used to draw supplies in buckets. Hummocks and fantastic ice-forms of infinite variety broke the monotomy of the boundless expanse. The warm sun gave us the impression that we were several thousand miles farther south. This perfect weather exasperated us, because a resumption of the advance could take place only after a storm or a big change in the wind that would break up the compact mass of ice in which we were wedged, creating canals which would allow the ice-floes shattered by the vessel to disperse.

In the afternoon the ski parties went out again. The novices contented themselves with walking in the immediate vicinity of the ship. To stray far from the vessel, outside the smooth area which surrounded it in a semicircle, where the groups of hummocks began—a favourite refuge, as is known, of bears—had also become dangerous, for the good sailors of the *Krassin* in the excitement of the hunt were sometimes firing their guns rather recklessly. In the evening the first distribution of vodka took place—vodka, that disagreeable grain alcohol, almost neat, to which everyone adds the quantity of water he thinks fit to make it tolerable. But even

after adding good snow water, I could only bring myself to swallow a little of the spirit with the greatest difficulty out of respect for my hosts, who followed with great curiosity my first encounter with the Russian national drink. The small orchestra of the *Krassin,* which from the start of the trip had been practising during the brief intervals of rest some Russian songs and dances, gave a modest concert in the mess-room, at which several dancers displayed their talent.

On Thursday, July 5, the third day of our imprisonment in the ice, a careful examination was made of the ship. It confirmed the fears which during the last few days of navigation had been growing among the technical personnel of the vessel.

A diver descended into the water and ascertained that a blade of one of the three propellers had been broken off, probably as a result of coming into collision with a block of ice during one of the many reversing manœuvres of the ship. This fact by itself would not have been very serious, but in the course of the inspection it was found that the steering gear too had been seriously damaged at two points, first on board in the steerman's cabin, and then outside where two or three supports of the rudder had been smashed. The breakage had probably occurred, like that of the propeller, during

one of the desperate assaults on the pack-ice. All this explained the sudden reduction in the efficiency of the vessel which we had noted without being able to ascertain the cause.

The serious news of the damage suffered by the ice-breaker was immediately telegraphed to Moscow in a report which added that the power of the vessel had been reduced by 1,000 h.p.—from 10,500 to 9,500. Moscow was asked whether we should not proceed to the Seven Islands, where there was a large stretch of open sea, to attempt to repair the damage, or return straight away to Advent Bay. Repairs on the spot, although the *Krassin* had on board a spare blade, were, in fact, impossible because of the very strong current, which would not have allowed the divers to manage the heavy fitting.

At a time, then, when the compactness and thickness of the ice called for all the power of the engines, we found our efficiency greatly reduced. Towards evening the weather changed, the temperature fell almost to freezing-point, and it began to snow. In place of the north wind, a strong wind began to blow from the south-west. Its effects were not long in showing themselves. Large cracks opened in the ice and the whole pack began to move. Hundreds of hummocks sank in a few hours, leaving fairly large areas of open water.

The reply from Moscow arrived on the morning

of Friday, July 6. It was quite explicit: "No return; find a stretch of ice sufficiently smooth to allow the aeroplane to take off and descend without serious risk; the airman Tschuchnovski to be allowed to attempt the rescue of the Viglieri group by air; continue the work of rescue with the utmost activity until there is on board only 1,000 tons of coal necessary for the return voyage."

The stokers lost no time in getting up full steam, and the mechanics of the Junkers machine, who for several days had been testing the engines of the aeroplane, finished their preparations. Towards midday the *Krassin* broke through the barrier of ice in which she had been imprisoned for nearly four days, and began the search for a natural aerodrome.

The breaking-up of the pack-ice that had begun on the previous day allowed the ship to advance slowly but fairly steadily. Moving at about two miles an hour, we made towards a big white patch, which Commander Oras and the airman Tschuchnovski had discerned from the ship's tops. After several hours' navigation, we reached an almost circular mass, fairly smooth and nearly a mile in diameter. Into this the *Krassin* after long manœuvring wedged herself as into a port. The vessel was firmly secured by ice-anchors and everyone disembarked to explore the "aerodrome."

Our position was then 80° 47′ lat. N. and 23° 7′

long. E., about 11 miles north of Cape Platen. Tschuchnovski and Professor Samoilovic made a preliminary exploration of the ice-field on skis, and found several fresh-water ice-ridges that might possibly make taking-off and alighting dangerous, in addition to some other uneven patches. But Tschuchnovski, impatient to take the air and to turn the fortunes of the expedition in our favour, declared it to be an ideal Polar aerodrome. The ridges were marked by coloured materials, and the work of lowering the machine on to the ice was immediately begun.

The few miles covered that day had made clear, in the opinion of the commander of the ship, the momentary futility of attempting a further advance in the *Krassin*. The success of the expedition now seemed to depend entirely on the prudent daring of the Russian aviator. Throughout the night of Friday, July 6-7, the entire crew of the *Krassin* worked feverishly. On the port side, where the Junkers machine lay with its nose towards the ice-aerodrome, a sloping track was built from the ship to the ice, and in the early hours of Saturday morning the aeroplane was lowered from the ship by a skilful manœuvre and then dragged about 150 yards away. The various accessories were disembarked, and all day the mechanics worked at fitting and rigging the wings.

Sliding Tschuchnovski's Aeroplane on to the Ice-Pack

In view of the delicate situation in which we found ourselves, I begged Professor Samoilovic to outline to me his plans and his expectations for the near future.

"Even at Leningrad," said the head of the expedition, "it was already clear to us that it would be very difficult for the *Krassin* to overcome all the difficulties which the Polar ice presents. If it is true that the majority of the experts who were called upon to give their ideas on the possible results of the expedition felt that the big ice-breaker would reach Cape Leigh Smith fairly easily, those with a really intimate knowledge of Spitsbergen made very strong reservations.

"As during last summer the sea to the south and to the east of North-East Land was reported as being fairly free of ice, we sent the *Malyghin* on that route. Although that vessel is not a true and proper ice-breaker and has a tonnage seven times inferior to that of the *Krassin*, she can easily break very strong ice-crusts, and above all can easily worm her way into the canals. We, on the other hand, considered we could reach the Viglieri group more rapidly by doubling Cape Barren and then making for the east. You will remember that our progress had been exceedingly rapid from the start. The *Krassin* has given ample proof of her power. The wind has changed, piling up the drift-ice from the

pack against the coast and erecting an insurmountable wall in front of our bows.

"Tschuchnovski is to carry out to-morrow a careful reconnaissance of the region, flying across Hinlopen Strait as far as the southern and eastern districts of North-East Land. He will examine the condition of the ice, and following his report we will see what is the most suitable action to take. It is possible that during the next few days the atmospheric conditions may change, and, therefore, the state of the ice may improve. In that case we shall take our ship forward and arrive at Viglieri's tent. If conditions continue to be unfavourable, we shall modify our programme. Every expedition must always be prepared to modify its plans.

"We have still 1,700 tons of coal. Of these 1,000 are required to take us back to Advent Bay in the Ice Fiord. This is the only coaling station in Spitsbergen where a vessel like ours can re-coal without losing weeks of time. For an eventual advance, therefore, we have only 700 tons—very little, if one considers that in the open sea the *Krassin* burns 120 to 140 tons daily. If, therefore, important changes do not take place in the condition of the ice, we shall in a few days have to decide to go to Advent Bay, where our divers will be able to change the broken blade and repair the rudder more

carefully. Then within a few days we shall be ready to continue the expedition.

"Too much emphasis," concluded Professor Samoilovic, "cannot be laid on the fact that at this season of the year it is still too early to attempt Polar expeditions with ships. The Kara Sea and the sea in the neighbourhood of Nova Zembla are still thickly covered with ice, but in two or three weeks they will probably be quite free. If the rescue of the marooned crew of the *Italia* is not possible by means of aeroplanes, the only vessel that can reach them is the *Krassin*. Only it is necessary to have patience. The faith by which the members of the expedition were animated when they left Leningrad remains unchanged. We promised to do all that was humanly possible, and we shall keep our promise."

I quote this conversation textually in order to illustrate the state of uncertainty which reigned in the *Krassin* in those anxious hours and to emphasize the great part that good fortune played in the happy outcome of the expedition.

By the morning of July 8 the Junkers machine was in perfect order. The voice of the powerful engines raised a song of strength and hope to the clouded skies. On the drifting pack, the movement of which we could check by observing the greater or less tension of the thick steel cables at-

tached to the ice-anchors, and the rusty imprint that the high and flat bows of the *Krassin* left on the white surface, groups of sailors with their guns were moving to and fro in search of game. The day before they had shot a seal, and after cutting out the dainty liver had skinned the animal, afterwards spreading the pieces behind the hummocks which surrounded our Arctic aerodrome, in the hope that they would entice a bear within range of the guns. But alarmed, perhaps, by the scent that was bound to be present with a conglomeration of men and material, such as ours, the placid beasts kept far away, and to have followed them, even on skis, would have been a risky job. Now and again shots rang out, and the sailors returned on board with a few fine sea-gulls either dead or wounded. Bigger game was not found in that zone.

It was Sunday, and the anniversary of the Soviet Constitution. General Nobile, concerned at the prolonged halt of the *Krassin,* had telegraphed from the *Città di Milano* to Professor Samoilovic asking to be informed of the plans of the Russian command. The head of the expedition had replied, giving the programme just outlined. The day was a sad one. All felt that things had reached a decisive point, since, if the attempt of Tschuchnovski did not succeed, the fate of our undertaking, followed anxiously by the whole world, would be compromised and the

valiant castaways would see a great hope fade away. On the other hand, all felt that the *Krassin* was in a difficult position. We had a rudder almost broken away from its fastenings; it was liable to go completely with a new heavy shock, and the vessel would lose an essential organ. A propeller was damaged and the reserves of coal were limited. All around us were huge masses of ice brought down from the Polar basin, the so-called "old" ice, formed several years ago; its thickness, averaging more than 2½ metres, seemed to increase as we gradually proceeded eastwards. The breaking-down of a similar barrier would have called for the employment of an ice-breaker five times as powerful as the *Krassin*—in other words, a vessel which existed nowhere in the world. Finally, we knew very well that in case of a disaster no human effort could save us. Professor Samoilovic, in fact, had said as much at Leningrad to the members of the Relief Committee before starting out: "If misfortune overtakes us, do not send help. This would probably only increase the number of victims without serving any purpose. Place your trust in our efforts."

The aeroplane was now ready for flight, and the scene around it was one of great animation. My colleague Rakhmilovic of the *Krassnaia Gazeta* was painting underneath the wings two big red Soviet

stars. Finally, Tschuchnovski, who, after working all night, had gone to rest for a few hours, appeared in order to begin a test flight. The machine slid heavily over the snow, sinking more than once, now with the right runner, now with the left, into the snow-covered pockets of fresh water. The state of the ice was unfavourable.

Tschuchnovski very ably succeeded in preventing the machine from overturning, and at last was in the air. He circled several times over the aerodrome and then flew for a few miles in the direction of Charles XII Island. On his return we noticed with alarm that one of the runners had become detached and was hanging vertically from the machine. A descent in these circumstances might damage the aeroplane irremediably. We ran across the soft snow, making desperate signs. Tschuchnovski understood and planed down gradually with incomparable skill. As the runner touched the snow, it resumed a horizontal position. A catastrophe had been averted, and we breathed freely again. In the evening the second ration of vodka was issued to the crew. This was the sole outward manifestation with which the Bolshevists of the *Krassin* celebrated at parallel 81° their national festival.

Tschuchnovski outlined his plans to me. To-morrow he would make a long flight during which he

The Airman Tschuchnovski (in Centre) with His Mechanics
on Board the *Krassin*

would make an inspection of the ice around Charles XII Island, push on past Cape Leigh Smith to reconnoitre the state of the ice in that zone, and, having located the encampment of the Viglieri group, would drop there packages containing clothes, food, and instructions. The flight, the duration of which Tschuchnovski reckoned would be about two hours, would have only the character of a reconnaissance. If the state of the ice in that zone should be such as to make inadvisable a supreme attempt of the *Krassin* to advance, he would without further ado descend during the next few days on the ice where the Red Tent lay to attempt the rescue of the marooned men by air.

The night was passed in making final preparations. I translated into Italian the message that Tschuchnovski was to drop on the encampment of the Viglieri group. Three copies were made, and each was enclosed in a tin container fastened to the big packages of clothing and food. The message read:

"On board the *Krassin,* July 9, 1928. In the name of the Russian Relief Committee to the Nobile expedition, and in the name of the crew of the ice-breaker *Krassin,* the airman Tschuchnovski is happy to bring to the aeronauts of the *Italia* a most cordial greeting. It is the intention of the airman Tschuchnovski, who is piloting a Junkers

three-engine machine with runners, to attempt as soon as weather conditions permit, to alight in the immediate neighbourhood of the encampment. He therefore begs the members of the Viglieri group to prepare the signals herein set out, in order to indicate the most favourable point for a descent, the length of the level stretch, and the thickness of the ice."

Other sheets bore a short code of signals which were to be traced on the snow at least 2 metres in size. At the end of the message this postscript was added:

"P.S.—We know that for two days you have been unable to communicate with the *Città di Milano*. Do not worry: it is the result of an inexplicable general disturbance."

On the morning of July 10, Professor Samoilovic and the airman Tschuchnovski summoned me on deck to witness the preparation of the packages that the Junkers was to take on board. From the parcels of clothing bought at Bergen we took five complete suits and sufficient woollen underclothing for five persons. The Russians added several pairs of leather and felt boots, tins of preserved meat, a rifle and some ammunition, an oil-stove, medical stores, cigarettes, matches, and other articles of minor importance. All this material was firmly packed into very strong sacks for attaching to

parachutes. With a prudence which was prophetical, Tschuchnovski took on board also a tent, food, medical stores, arms, a stove, cooking utensils, and everything that might be necessary in the event of his having to make a forced landing on the ice. As later Tschuchnovski had occasion to say, he forgot one thing only—salt.

A few minutes after 4 p.m. the engines were started up. The weather, which up to then had been fairly fine, suddenly threatened to change. We could see a fog-bank approaching from the west. Dr. Hoel, who has a thorough knowledge of Polar weather conditions, was strongly against starting the flight. In less than three-quarters of an hour, he said, we should be wrapped in a thick fog, and Tschuchnovski would not succeed in finding the *Krassin* again. But Tschuchnovski and his intrepid companions were impatient. Tschuchnovski was of the opinion that in the flight to Great Island, past Cape Leigh Smith, that was to the east, he would have clear weather. The fog might catch him on the return flight in the neighbourhood of the *Krassin;* but the ship, he argued, was such a massive object that even in the fog he could not help finding her by flying low. As a precaution, he advised that should the fog grow very thick, coal should be burnt in the furnaces of the ship in such a way that the funnels would discharge a dense smoke.

The companions of Tschuchnovski on the flight were the second pilot, George Straube, the mechanic Schellagen, the observer, Alexiew, and the cinematograph operator, Bluvstein. We took a warm farewell of Tschuchnovski, wishing him a successful flight. The machine bumped roughly for a few seconds over the treacherous surface, and then took off regularly, soon reaching a height of 600 feet. The aeroplane circled round the ship twice, and then flew off towards Charles XII Island, the high ground of which we could just see as a reddish mound through the first banks of fog that the sun still succeeded in penetrating. We saw him execute several zigzag evolutions to the south of Charles XII Island, which lay about 12 miles from us, and then he disappeared in the east. We looked at our watches: it was 4.40 p.m.

Meanwhile the fog grew thicker, hiding the pale face of the sun. After a few minutes, the first wireless message arrived; it simply said: "Approaching Charles XII Island." At 5.15 p.m. Tschuchnovski signalled that he was over Eismark, near the coast to the west of Cape Leigh Smith. Another message told us he had passed Great Island to the east of Cape Leigh Smith. Then there was silence for thirty-five minutes. On board it was thought that Tschuchnovski had been successful in locating the Red Tent and had dropped the supplies, but at 5.50

p.m. a wireless message stated: "Have not yet found the Viglieri encampment." This was followed at 6.18 p.m. by the words: "We are returning."

There was a time of anxious waiting. The fog, which was now very thick, blotted out everything more than 100 yards away, and it appeared more and more unlikely that Tschuchnovski could locate the *Krassin*. Orders were given to the stokers to burn tar, and high columns of smoke quickly rose from the funnels. The powerful searchlight in the bows was brought into play, although with little hope of its proving useful, and rockets were fired, but without result. Tschuchnovski, who nevertheless should by then have been in our immediate neighbourhood, did not appear, and we could not even hear the humming of his engines.

Anxiety began to seize all of us. In the middle of the Polar aerodrome from which Tschuchnovski had started, a big fire of tar barrels and thick logs was lit, and another high column of dense black smoke rose into the quiet air. Suddenly we saw Professor Samoilovic, who from the moment of Tschuchnovski's departure had not left the wireless cabin, hurry on deck, obviously moved and waving some telegram forms.

The text of one of the dispatches was only partly decipherable. One could read in it, however, the

words: "King Charles . . . Malmgren." A second message had, however, been received perfectly and read: "We cannot find the *Krassin* in the fog. We have discovered the Malmgren group. We shall attempt to land in the Seven Islands district."

The news made a deep impression on all of us; only with the greatest difficulty could we believe the miracle. But all knew too well the seriousness and prudence of Tschuchnovski to suspect a misunderstanding. Details of the discovery were still lacking, but apparently all doubt was to be excluded. In any case some men had been seen on the pack-ice, and these men could only form part of the castaways of the *Italia.* Evidently it could not be Captain Sora's party, which, after starting out on foot to reach the Red Tent, had not been heard of for several days, as we knew from wireless messages intercepted by the *Krassin.* Besides, Sora had with him dogs and sledges—a very important particular, which would certainly not have escaped the notice of the Russian airmen. Was it then the Malmgren group? Or some survivors of the *Latham?*

We crowded into the passage which led to the wireless operator's cabin; but no further messages arrived. The *Krassin's* station continued to launch appeals to which no reply came. Tschuchnovski

Columns of Smoke on the Ice-Pack to Show Tschuchnovski the Route to Follow on His Return Flight (July 10)

had disappeared. Thus the hours passed. It was now 11 p.m.; the airmen had been absent more than six hours.

Finally a message arrived, reading: "Have landed at Cape Wrede or Cape Platen. The machine is damaged. We are safe." This message also confirmed the news that the Malmgren group had been seen. Later at 1.15 a.m. a detailed telegram from Tschuchnovski reached the *Krassin*. He stated that the aeroplane had landed at a point a mile from the coast at Cape Wrede to the S.S.W. of Cape Platen, and that he had sighted the Malmgren group at 80° 40′ lat. N. and 25° 45′ long. E., 5½ miles E.S.E. of Charles XII Island, on an ice-floe surrounded by open water. Two of the marooned men, added Tschuchnovski, had waved sticks and handkerchiefs; the third was lying on the snow. The Junkers machine had circled low five times over the men, but had not dropped any supplies, because the ice-floe was too small and the packages would in all probability have fallen into the water. In descending in the fog, the machine had struck a hummock; two air-screws had been smashed, and the fuselage damaged. The message concluded: "We have food for two weeks and consider that the *Krassin* should send urgent assistance to the members of the Malmgren group."

That night nobody slept on board the ice-breaker

locked in the pack-ice. Although the statement of Tschuchnovski that the men sighted were the Malmgren group continued to raise a certain doubt, it nevertheless appeared of the utmost importance to act quickly. At 2 a.m. there was a conference in the commander's room between Professor Samoilovic, Commander Oras, and Captain Eggi, to examine the new situation. From 15 to 18 miles, as the crow flies, divided us from the stranded party seen by Tschuchnovski. It was decided to embark immediately all the equipment still on the ice, together with the sloping track, and to leave at the earliest possible moment. No forecast could be made of the duration of the run, although Commander Oras and Captain Eggi considered that in any case not more than four days would be taken.

CHAPTER IV

THE RESCUE OF ZAPPI AND MARIANO

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Anxious waiting—"There they are!"—The meeting with Zappi—The "thank you" of Mariano—The state of the two men—A dramatic story—Two mistakes—A fourteen days' march—Malmgren collapses in the snow—A "gentleman's death"—Mariano goes blind—The appearance of a seaplane—No more food—Twelve days of agony—The *Krassin* arrives—The return to life!

AT 11 a.m. on Wednesday, July 11, the ship raised anchor and resumed the struggle against the ice, making straight for the stranded men. Tschuchnovski, meanwhile, was sending out wireless messages, urging the commander of the expedition to act with the utmost promptitude, and adding that he and his companions were in excellent condition. They had already reached land where reindeer and other game abounded.

The news of the discovery of the Malmgren group, picked up by the wireless stations of the vessels of the other relief expeditions, caused a torrent of requests for detailed confirmation to pour in on the *Krassin*. General Nobile telegraphed asking for confirmation of the sensational news, and the *Quest* offered her services in case of need.

Meanwhile the advance of the *Krassin* towards the much-longed-for goal proceeded amidst many difficulties. In spite of every effort, the average rate of progress of the ship did not exceed during the first hours 1½ miles an hour. The thickness of the ice everywhere exceeded 6 feet.

For the first time in our cruise we encountered vast fields of exceptionally tall hummocks, real chains of white and massive little hills, which gave the impression of an Alpine glacier. During the night five bears were sighted. The crew immediately rushed for their guns and began firing from the deck on the clumsy beasts. The distance was, however, too great to allow of a successful shot, and several sailors descended on to the ice and began a chase after the bears, which at last had realized their danger. A she-bear, struck by several bullets, fell dead: the other four beasts took refuge in the sinuous maze of the pack-ice, and as time was limited, the chase had to be given up. The dead bear was dragged to the ship and hauled on board by means of chains.

The *Krassin* then continued her course, laboriously opening a passage through the rough and irregular pack-ice. All the crew were on deck, while look-out men were stationed in the high crow's nest or stood on the iron stairways of the funnels, anxiously watching the boundless expanse. After pass-

ing Charles XII Island, the condition of the ice improved. The pack was now broken by cracks and channels, and the short stretches of open water made possible a more rapid advance. About 5 a.m. we arrived in the immediate neighbourhood of the point where Tschuchnovski had seen the stranded men.

The wait proved a nerve-racking ordeal. The commander had promised a reward of 100 roubles to the man who first caught sight of the castaways. Not that the reward added an additional stimulus to the look-out; the hearts of all were already burning with the desire to put the *Krassin* finally on the right track and thus to dissipate the tormenting doubts which for twenty-four hours had been afflicting us.

At 5.20 the second officer, Brennkopf, suddenly threw out his arm in the direction of an almost imperceptible dark spot, shouting: "There they are!" All eyes turned in that direction, but for over twenty minutes nobody could be sure. Owing to the pools of water which broke the surface of the pack and the numerous seals which were dotted about, one could easily imagine that a mistake had been made.

All of a sudden the siren gave a very long blast. The dark spot could now be distinctly seen moving quickly against the whiteness of the ice. Certainly there were men there, and the question anx-

iously asked was: "Is it Mariano, Zappi, and Malmgren, or the survivors of the *Latham?*" The *Krassin* meanwhile continued its arduous advance, forcing a passage through the enormous blocks and sheets of ice, which were in process of breaking up. The black point became ever larger and more distinct. Now we could see it first mount on to and then descend from a hummock, waving something which might have been a flag. Finally, the shadow of a human form fell boldly across the white background, but we were still too far off to identify it.

On board all were seized by deep emotion. The sailors had even invaded the bridge and were giving free outlet to their joy. But where were the other two men? Nothing was to be seen of them. A sailor in the crow's nest shouted out that he could see a dark form on the ice, lying still in the shelter of a hummock. When we were about half a mile away, the man we had first sighted stretched out his arm in the Roman salute. All doubts vanished; the party was Italian. It was, however, still impossible to recognize the figure, which was tall, with a face almost black, burnt by the sun and the reflection from the snow, with a shaggy beard and long, uncombed hair—a figure of infinite misery. The man lying on the ice now began to show signs of life. It could clearly be seen that he was attempting to raise himself, only immediately to sink back

The Bear Lifted on Board the *Krassin*

exhausted. The third man mentioned by Tschuchnovski was not visible.

When we were about 100 yards away, the first man, using his hands as a megaphone, shouted the word *"Krassin!"* Through a pair of glasses he had read the name painted in small letters on the ship's side. Then he walked forward to the edge of the floe, evidently watching the effect that the advance of the ship was producing on the surrounding ice, and next made a commanding gesture with both hands. The movement of the water caused by the *Krassin* was threatening to break up the precarious refuge of the castaways. The vessel stopped. A rope ladder was lowered from the starboard side of the ship, and the doctor, Sriedniewski, quickly descended on to the ice, followed by Professor Samoilovic and numerous sailors. Progress across the ice was, however, extremely difficult, it being necessary to cross large rifts, while several big blocks of ice were dangerously insecure. Boards and ladders were thrown down from the deck and used to bridge the difficult spots. The rough and broken surface of the pack was then covered in a succession of leaps, and the rescuers finally reached the floe on which the dark figure was waiting.

It was Captain Zappi. The valiant navigation officer of the *Italia* warmly wrung the hands that were extended to him, murmured his thanks in

a voice choked with emotion, and replied with a wave of the hand to the cheers and the waving of hats of the crew who had remained on the ice-breaker.

Others of the rescue party had meanwhile run towards the other man lying on the ice. Behind a hummock and protected by a shallow trench of snow, Captain Mariano was lying in a pool of watery snow, wrapped in a light blanket soaked in water. Turning his eyes, bright with fever, to Dr. Sriedniewski, who had placed a hand beneath his long, soaked hair to help him in his vain attempt to raise his head, the sufferer twisted his lips into a weak smile and breathed a "thank you" which came from the bottom of his heart.

Sailors quickly brought a stretcher on which poor Mariano was laid. When he was raised, it was seen that he had been literally lying in water. The rescuers had made their way round the hummock, but the third man they were seeking was not to be seen. On a neighbouring ice-floe, separated from the one which Mariano and Zappi had occupied, could be seen a pair of trousers, evidently laid out to dry, and strips of material placed in such a way as to form the words: "HELP FOOD MARIANO ZAPPI."

We returned to Zappi. "And Malmgren?" we asked him. Zappi looked sadly into space, let his

arms fall to his sides, while a sob shook him; Malmgren was no more. It was almost a month since he had perished in the desperate attempt of the three men to reach land. The news turned our hearts to ice. Poor heroic Malmgren!

Meanwhile Mariano had with every care been borne as far as the *Krassin*. Several times the small improvised bridges over which the rescuers had to walk, threatened to collapse under the weight, and it took some time to work a way across the irregular surface to the ship. Finally Mariano, still closely attended by Dr. Sriedniewski, was hoisted on board and immediately carried to the little hospital. As the stretcher passed across the deck and along the passages, the crew bared their heads.

Captain Zappi, supported by the secretary of the expedition, Ivanow, and two sailors, arrived before the crane which had raised the stretcher of Mariano had been lowered again. On deck another stretcher was being fixed to the hooks. But Zappi did not wait for this. He grasped the rope ladder and climbed without great difficulty up to the bulwarks, where he was lifted into the arms of the sailors. He sank into a chair in the mess-room and turned to me, saying:

"I'd like some hot, very hot, coffee. For twelve days I have not eaten anything. Since June 30 I have not had a warm drink."

But there was no coffee on board. So some tea was made for him, and meanwhile he smoked a cigarette. With a steady hand he wrote out two telegrams—one to his mother at Mercato Saraceno, and the other to Commandant Romagna of the *Città di Milano*. He swallowed the tea greedily and asked for some biscuits, but Professor Samoilovic was inexorable; the permission of the doctor must be given first. Dr. Sriedniewski was called at once, and after feeling Zappi's pulse, said he might have a biscuit, one and one only.

The heads of the expedition and the officers grouped themselves around the rescued man. All had questions to ask him. All wanted to hear from his lips the Odyssey of the heroic patrol, which for forty-two days had been struggling against the drifting ice in a desperate attempt to reach land. But Professor Samoilovic forbade him to talk. Zappi, who was obviously very deeply moved and in an excited state, needed rest. And immediately Captain Mariano had been stripped of his soaked garments and clothed in warm under-linen, Zappi too was escorted to the ship's hospital, where a hot sea-water bath had been prepared for him. Then he slept for some hours. It was his first sleep in a bed after nearly two months of indescribable privations and exertions.

The tormented body of Mariano had in the mean-

time been carefully examined by the doctor. The brave officer was in an extremely weak state, and both feet showed serious symptoms of frost-bite, but the doctor did not see his way to express an immediate opinion. Massage was begun and a small quantity of broth passed between the lips of the helpless man to assist in reviving his exhausted energies. His pulse was irregular and very weak. Only his eyes preserved their natural vivacity and showed his great joy at having escaped the death that surely would have overtaken him, perhaps within a very brief time, out on the freezing wastes of the pack. Feverish in body but mentally serene, he listened to my brief account of the international relief expeditions and of the position of the Viglieri group. I informed him of the rescue of Nobile and of our faith that we should be able to reach the Red Tent that very night.

. . . . . .

Lying in their little beds in the ship's hospital, the two gallant officers spoke of their tremendous ordeal on the ice with the clarity and calmness which are proper to the strong. Their story is exceptionally dramatic, and constitutes one of the most tragic chapters in the history of Polar exploration. The energy and self-sacrifice which Mariano and Zappi showed in their fight with Nature to save the expedition form a brilliant example of heroism.

"In view of the fact that nobody had heard our wireless calls," said Zappi, "Mariano, Malmgren, and I were charged with the task of reaching North-East Land, and possibly Cape North, where we could have started the organization of relief. Two or three days after the fall of the airship we heard, in fact, the wireless station of San Paolo at Rome announce that the programme of the search operations had been arranged for the whole of the northern coast of Spitsbergen, from Amsterdam Island to Cape North. The only way of saving the Nobile group was to make our position known. The only means of communicating it was by sending someone to re-establish contact with the outside world.

"Malmgren, who warmly favoured this project, was chosen, as one expert in Polar conditions, to take part in the attempt, and, as he expressed the opinion that the group should consist of at least three persons, in case some accident might eventually happen to one of them on the way, Mariano and I were chosen by General Nobile.

"This was, as you already know, on May 30. Our equipment was of the very poorest. We had food for a month, no arms except an axe, no leather footwear, but only light Esquimaux boots, no change of clothing, no tent; only a wool blanket.

"As Malmgren had dislocated his left arm, he could carry only a small part of the load, and the

From left to right, Professor Samoilovic, Cinematographer Bluvstein, Captain Zappi, Professor Hoel, and the Author on Board the *Krassin*

remainder of the food was divided between Mariano and me. The load was thus too heavy for a march across pack-ice broken by cracks, irregular hummocks, and pools of water.

"In these unhappy conditions we started out on our desperate march after a warm farewell and a blessing from Nobile. We felt that our mission was a sacred one. Our companions must be saved, and it was this thought which gave us the courage necessary to make the great decision. Those we were leaving behind were so persuaded that we were going towards safety that all of them were keenly desirous of joining our little group. They gave us letters for their families and entrusted us with various confidential missions.

"We reckoned on reaching Cape North in eighteen days. Things, however, turned out quite differently. Malmgren, a fine, noble man, made two fundamental mistakes. The first was in estimating his own physical powers, as well as those of Mariano and me. Although I am naturally strong, I had received an internal injury when the airship fell from being thrown head-first into a crevice. Mariano has by no means a strong constitution. The second mistake was not to have foreseen above all the special difficulties presented by the pack near the coast, where the ice is subject to heavy pressure and a strong drift which, as painful experience made clear

later on, sometimes carried the ice six or seven miles in a day, making it impossible to reach land.

"Driven by desperation, we marched towards Broch Island, exhausted, with no chance of preparing warm meals, continually falling into the treacherous snow of the irregular and broken surface of the pack, or else into water, with no possibility of changing our clothes. For fourteen days we pushed on, covering a distance which could not have averaged more than two miles a day. After a fortnight Broch Island was farther away than ever. The drift was inexorably rendering all our efforts vain.

"Malmgren, by no means strong physically, and morally depressed by the anguish of seeing failure overtake the enterprise, which he had so strongly advocated as the best means of saving the whole party, day by day grew weaker and weaker. After the tenth day he found it almost impossible to walk. On the fourteenth day of hardships and privations, he collapsed in the snow, saying that he found it impossible to remain on his feet any longer.

"'I can't go on,' that brave man confessed. 'There is nothing left to me but to die; but you must' (and his voice emphasized the word must) 'continue at all costs. You must save the others.'

"Then, laying himself out on the snow, he refused to take any further food.

"'Leave me,' he said to us with great serenity.

'Let me die peacefully. Farewell, friends, farewell, and may God protect you!'

"Then he called us to his side and entrusted to me his compass, charging me to take it to his mother, together with his farewell greetings."

At this point of his narrative the voice of Zappi became hoarse and almost inaudible.

"Mariano and I," he continued, "moved away for about a hundred yards and stretched ourselves out on the ice to rest. We hoped that, once his feelings of desperation had passed, Malmgren would join us again to attempt once more to advance or await with us that death on the ice which the Swede used to call 'a gentleman's death.'

"In this way about twenty-four hours passed—a whole day full of horror and crowded with sombre thoughts. Then we saw Malmgren's head rise above the trench in which he was lying. Our hearts began to beat with hope. We thought that, driven by the pangs of hunger, he wanted to join us once again. As soon as he saw us, he cried out in supplicating tones, putting his hands together:

" 'Why don't you go on? Get on quickly; don't lose a single moment. The expedition must be saved. I can only be a hindrance to you. Go, in the name of God! My sacrifice is only a small thing, compared with the lives of so many. Go! I entreat you,' he again cried to us in agitated tones.

'Quickly! Quickly!' As he uttered these words, his right arm was raised and he kept his left hand on his forehead.

"We continued our advance and never saw him again. Malmgren thus died on the pack. That he died is indisputable; in the first place because his physical powers, which were sapped by his numbed feet, did not allow him to proceed any farther; in the second place because by making it possible for us to live a greater number of days, he irremediably sacrificed himself. He, in fact, refused to keep with him even a small quantity of food.

"That dreadful date will remain indelibly impressed on the memories of Mariano and me. It was the sixteenth of June. In intense cold, whipped by winds and storms, we continued our march towards the coast. Our progress was extremely slow. The mist cut off all sight of the island that we imagined might be our salvation and prevented us from calculating our drift. Soaked with water, benumbed by the icy wind, with our extremities half frozen, we were, in a word, at the end of our strength and decided to halt to see what Fate had in store for us."

(As, deeply moved, I listened to this narrative, other similar Polar tragedies came to my mind. There was the German Schröder-Strantz expedition in 1912, which from Sorge Bay proposed to

reach Advent Bay by crossing a very rugged and little-explored part of Western Spitsbergen. The expedition split into several groups, one of which, composed of two Norwegians and a German, met with very severe difficulties and was overtaken by snow-storms. When the German could no longer continue, the two Norwegians had to leave him. During the Danish expedition in 1922 to the northern coast of Greenland, under the leadership of Lauge Koch, the Swedish botanist Thoilt Wulf fell ill, and, being unable to proceed, begged his companions to leave him and, in fact, was left to die.)

"Meanwhile Mariano, as a result of the reflection from the ice, had become blind. He could not see even the footprints that I left in the snow. Leading him by the hand, I attempted to continue the march. How many days we passed in this struggle, every hour, every minute of it in the snow, scrambling over big blocks of ice, jumping across channels, constantly falling and painfully picking ourselves up again, and occasionally lying on the ice for a few hours to rest ourselves, I cannot exactly say.

"Once, feeling completely exhausted, we scooped out a trench in the dry snow and stayed in it for five or six days, fully prepared to die, but with a feeling of sharp sorrow at being unable to fulfil the mission that the General had entrusted to us."

Zappi spoke slowly, but very clearly. His hands were joined together, and now and again he half closed his eyes as if better to recall the particulars of the terrible Odyssey through which he had passed. He could see himself again on the drifting pack, dragging along with him his blind and physically weaker comrade, for whom he chose the least difficult path in a vain attempt to reach land.

"On June 20," continued Zappi, "a bright interval in the weather allowed us to catch sight of Broch Island, which was much closer than we had supposed. Mariano had picked up somewhat, and his sight was returning; so we continued our march towards the island.

"All of a sudden the drone of an engine startled us. Madly we waved our hats, but the seaplane, the first that we had seen, passed overhead without seeing us. The hope that had filled our hearts changed in an instant to bitter disappointment. The appearance of the machine told us, however, that in any case aircraft had arrived at Spitsbergen and that search was being made.

"During the next five days one or two machines flew over our heads each day. Every time they passed we waved our arms and hats, but always in vain. Meanwhile we continued our laborious march across the pack-ice, which was now rapidly breaking up, every moment in danger of being engulfed by

A Field of Hummock-Ice

some newly formed greenish eddy of icy water.

"At one time we were fairly near to the coast. It seemed to us that we could almost jump across to it, and so tear ourselves, at least partially, away from the torture of the ice. Then Mariano again lost his sight and twisted a foot as a result of a fall. A few hours later, owing to a sudden drift to the east, I had to watch, helplessly, Broch Island once again slip farther and farther away.

"That day, for the first time, I considered the possibility of having to abandon Mariano in order to attempt to reach land by myself. Mariano urged me to do this.

" 'Save yourself,' he said to me. 'Save yourself, because in doing this you will save our comrades.'

"But the surface of the pack-ice was so irregular and contained so many pools of water that I considered it impossible with a load on my shoulders to reach the land. I led Mariano by the hand on to a big floe covered with hummocks, the size of which afforded us a certain guarantee of solidity. We spread the blanket on the ice and allowed ourselves to drift and eventually reached a point a few miles from Cape Leigh Smith. Here I again examined the possibility of reaching the land. But once more I gave up the idea: the task was impossible.

"Meanwhile our food supplies were becoming exhausted. On June 30 we ate our last cake of pem-

mican, swallowing down the crumbs with almost religious devotion. A strong wind, first from the south-east and then from the east, drove our ice-floe very close to Broch Island, and afterwards swept it almost as far as Cape Bruun.

"Mariano—it was the fourth day we had eaten nothing—entreated me once again to leave him, so that I might reach the land. It was too late. Without food and in a weak condition, I considered that the attempt would not have the least chance of success. And so we resigned ourselves to die. The cold, the damp, and the wind were driving from our bodies the last remnants of strength. This agony lasted twelve days. We could no longer reasonably nourish any further hopes. Quietly we awaited the end.

"On July 10 towards evening we suddenly heard overhead the fresh drone of engines. Stumbling out of our cave of ice, I waved wildly a strip of rag which had served us as a flag. I realized with surprise that the pilot had seen me, and a cry of joy broke from my lips. And, in fact, the machine began to make wide circles over our heads. Five times he swept round above our prison. I continued to wave the flag until the machine had disappeared in the mist.

" 'Mariano,' I shouted, 'we are saved; to-night we shall eat.'

"All the hopes of two dying men were expressed in that cry. We made some rough calculations—so many hours for the machine to reach King's Bay (naturally we knew nothing of the voyage of the *Krassin*); so many hours to return. But the aeroplane did not return.

"Desperation again swept over us. On the morning of the 12th the shrill blast from a siren violently startled both of us. At the time we were lying wrapped in the soaked blanket. I jumped up hastily, but at first saw nothing. Believing it to have been a sound produced by the movement of the ice, I lay down again. But then all of a sudden I seemed to see a trail of smoke. I climbed on to the highest point of our hummock.

" 'Mariano, I'm not mistaken: a steamer is coming this way. Mariano, let's make signals. It's our salvation.'

"I summoned up my last remaining strength and waved the rag wildly. Another blast from the siren. All doubts vanished. The vessel had seen us.

" 'We are saved, Mariano. We shall see our families again, we shall see again our dear country.'

"Another anxious half-hour went by, and then the vessel resolutely turned her bows towards our ice-floe. The cheers of the crew sounded in our ears like a song welcoming us back to life."

Mariano listened to the narrative of his compan-

ion in silence, but followed his words with the greatest attention. Sometimes Zappi would break off to ask:

"Mariano, how many days did we stay on that floe?"

And Mariano, quick to reply: "Five, Filippo."

His body, tormented by the cold and wasted through lack of food, lay inert, but his spirit was still lively, while his voice had preserved its metallic ring and firm intonation. Mariano's was the voice, after the *Italia* had crashed on the pack, and while his companions of the expedition, injured or stunned, were attempting to collect their scattered wits, to ring out amid the driving snow:

"Cheer up! Let us pick up the food at once. Let someone who's not hurt make out a list of all we can find."

CHAPTER V

AT THE RED TENT

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AT THE RED TENT

The *Krassin* pushes forward—Captain Sora and the Dutchman Van Dongen sighted—A big column of smoke—"There's the Red Tent!"—I am the first to greet Lieutenant Viglieri—Cecioni takes me for a Russian—"General" Biagi—The state in which we found the encampment—Everything is salved and taken on board—Viglieri visits Mariano and Zappi—Moving scenes—Where is the balloon?—Biagi threatened with a fine.

AFTER a stop of about an hour, the *Krassin* pushed forward again. The exact spot where Mariano and Zappi were saved proved upon verification to be 80° 30′ lat. N. and 26° 7′ long. E.

The advance, slow and arduous, was resumed. The pack-ice was broken at many points by cracks and sheets of water. The *Krassin,* however, owing to her great tonnage, could not slip into these channels, where there would hardly have been room for a small whaler to move, and she was, therefore, compelled to force a passage through the big fields of old ice, which sometimes exceeded 10 feet in thickness. We were steaming in almost unexplored waters and every now and again we had to stop to take soundings. The depth of the water varied between 95 and 300 metres, but once, to our great

alarm, a depth of only 30 metres was encountered, and the *Krassin* drew over 9 metres.

The relatively clear atmosphere allowed us to see fairly plainly the northern coast of North-East Land. About 11 a.m., while passing at a considerable distance from Foyn Island, the officer on duty, Ponomarow, reported the presence on the island of two men who were waving their arms. The only persons who were likely at that time to be on the island were Captain Gennaro Sora and the Dutchman Van Dongen, whose presence in that zone was already known to us from some messages our wireless station had picked up from the *Città di Milano* to the *Quest*.

Captain Sora had left Beverly Strait on June 18 with two sledges, drawn by nine dogs and driven by Warming, a Dane, and Van Dongen, a Dutchman, and had reached Cape Bruun in four days. Warming, owing to indisposition, had afterwards left the party, and Sora and Van Dongen with one sledge had resolutely pushed out on to the pack, determined to reach the Red Tent at all costs. After a magnificent march across the ice, they had reached Foyn Island, but had not been able to proceed farther owing to the rapid breaking-up of the ice.

The commander of the vessel held a short consultation. Should Sora and his companion be picked up, or should the advance be continued towards the

Viglieri group? The second idea prevailed for several reasons. Sora and Van Dongen were known to be two exceptionally strong and intrepid walkers. On Foyn Island, as along all the coast of North-East Land and on the neighbouring small islands, game was to be found in abundance. It was known that Sora and Van Dongen had some dogs which they might kill for food in case of need. There was clearly no urgent necessity to pick up Sora, and we continued on our course after having signalled for a long time, although our signals, as was ascertained later, were not seen. Commander Oras had the discovery notified by wireless to the *Quest,* with which we were in frequent communication, with the idea that Captain Sora should be taken off by the Swedes. This actually happened. "If they are not picked up before," Oras remarked, "we will take them on board on our return."

The vessel meanwhile was approaching nearer and nearer to the ice-floe on which the Viglieri group was lying. About 6 p.m. we entered the zone where we ought to have been able to see the castaways, but nothing was visible on the white expanse. We continued on a zigzag course for over an hour, searching vainly for the encampment. The *Città di Milano,* which after a four days' interruption had been able to resume wireless communication with the marooned men, gave us the last position indi-

cated by Lieutenant Viglieri—80° 31′ N., 29° 15′ E. The *Krassin* again corrected her course, but still without result. Evidently the drift was playing another cruel trick on the castaways, or else the astronomical observations were not exactly correct. The crew, drawn up on deck, as always when anything important was expected to happen, was divided into groups, to each of which was assigned a clearly defined area for observation. Even this measure did not lead to our discovering the Red Tent.

A fresh wireless message was sent to the *Città di Milano,* which, after placing itself in communication again with the group, informed us that the group could see us to the east. Instructions were then given that they should make smoke signals; and about 8 p.m. we discerned about four or five miles away a big column of smoke which rose high above an extensive stretch of the pack.

The entire crew broke into loud cheers. We were near our goal; our poor suffering brothers would be on board in a few hours. We were soon able to identify through a telescope the strange outline of Lundborg's overturned aeroplane as well as the tent, near which several minute figures could be seen waving their arms.

In less than an hour, favoured by the state of the ice, we reached the great ice-field, against the surface of which the tent stood out distinctly. With

With acknowledgments to A.–B. Text & Bilder

The Red Tent and Lundborg's Overturned Machine

In the foreground the rubber boats dropped by Maddalena

extreme caution the *Krassin* crushed the last obstacle and came to a stop not more than 100 yards from the encampment.

. . . . . .

A tall figure—it was Lieutenant Viglieri—broke away from the group on the ice and came towards the ship, halting about twenty yards away. I had the joy of shouting to him the first greeting, which was followed by a rapid exchange of news, during which I informed him of the rescue that morning of Mariano and Zappi and of the death of Malmgren.

Professor Behounek had meanwhile come up, followed at a short distance by Engineer Troiani. The lowering of the gangway took a little time, and Professor Samoilovic, Commander Oras, Captain Eggi, and the secretary of the expedition, Ivanow, then descended. While Professor Samoilovic embraced the three rescued men, and kissed them in the name of the rescuers, the crew looked on, deeply affected by the scene, magnificent in its simplicity. Permission was given to the other members of the expedition and to the sailors to descend on to the ice.

After having shaken the hand of Lieutenant Viglieri and informed him more fully of the state of Mariano and Zappi, I made towards the tent. Before reaching it I met Cecioni, who was limping

along with his stiff leg, leaning on two oars of the pneumatic boats, which served him as walking-sticks. The brief conversation which took place was delightfully amusing. In reply to my greeting, Cecioni gathered the two oars into his left hand and carried his right hand to his cap. I said to him:

"Wait a minute, and the attendants will come with a stretcher."

"A stretcher!" the injured man replied with a show of indignation. "No, I'm going on board by myself."

I accompanied him a few paces and then called the third officer, Pietrow, who came up at that moment, asking him to be kind enough to get a sailor to help the good Cecioni. Two giants of men quickly ran up and, supporting Cecioni beneath the arms, accompanied him on board. Before leaving me, Cecioni thanked me warmly and said:

"Let me pay you a compliment: you speak Italian just like one of us."

"Yes, not so bad; but you would be more surprised if you heard my Milanese . . ."

"What? Are you an Italian, then?"

This is how I was introduced—a ceremony which in the first moving moments of the encounter had been forgotten.

I soon reached the tent, sometimes sinking almost a foot deep into the watery snow as I walked. A

few steps from the little wireless station which had been set up near the tent stood Biagi, with a beard so thick as to make him unrecognizable, and wearing the hat of a general of the Italian Air Force. For a moment I was struck dumb. "What! another general!" I thought, as I approached the mysterious personage with a certain hesitation. Biagi, however, quickly relieved my embarrassment and, extending his hand, introduced himself as "Biagi." After a warm greeting, he explained how he had come into possession of the precious head-covering. When Nobile left on board Lundborg's aeroplane, he asked Biagi for his cap, which was very much warmer than his own general's hat, which he gave him in exchange.

"You'll see now," added Biagi. "When I arrive on board the *Città di Milano,* I'll stand them all to attention!"

Biagi had to allow himself to be photographed alongside the wireless outfit. He then explained to the chief wireless operator of the *Krassin,* Eckstein, who had come up, the working of the little station which had for many days aroused such keen interest throughout the world and had played an essential part in making the rescue possible. A few minutes before the *Krassin* had anchored near the Red Tent encampment, the station had launched as its last message a telegram warmly thanking the rescuers

and ending with the words: "Long live the King and Italy."

We were soon surrounded by officers and sailors. Biagi had become almost as popular in the *Krassin* as in Italy, and everyone wanted to know him personally and to take a close look at the miraculous "little box." Biagi, with the utmost aplomb, did the honours, showing us the spots where the tent had previously been pitched and telling us all about the walks which the marooned party used to take daily, partly to keep themselves in condition and partly to survey the ice and to carry out the necessary detailed jobs of the camp.

The big stretch of ice, called by the castaways the "Land-place" and by the Russians the "White Bear," was over 330 yards long and about 220 yards wide. It seemed fairly smooth, but was covered by a layer of melting snow nearly two feet thick into which one's boots immediately began to sink deeply. The condition of the ice was fairly good, and the overturning of Lundborg's aeroplane can only be accounted for by the fact that the engine must have been working unsatisfactorily at the moment of landing. In any case, the Red Tent encampment was no worse than the Polar aerodrome, where Tschuchnovski had successfully risen and descended. If Tschuchnovski had not been forced to make a bad landing at Cape Wrede, where

Dismantling the Red Tent

he smashed his machine, he would in all probability have been able to land successfully on the Junkers fitted with runners in a series of flights to the Red Tent. The pack was still fairly compact, but several small cracks showed that the sun of the Polar summer would soon cause it to decompose.

The point where the tent was pitched was perhaps the best spot of all, because the snow was still fairly hard there. A short distance from the encampment the melting snow had formed a large pool of water. If, therefore, the rescue had been delayed for a few days longer, the position of the castaways would probably have become critical. In any case they would have been compelled by the opening of channels to transport the encampment elsewhere with little prospect of finding a firm surface, because just at that time the whole pack was breaking up and the tendency of the ice-floes was increasingly to split into small pieces.

Inside the tent the castaways had laid on the snow the upper wings of Lundborg's overturned machine to form a sort of flooring. On the wings had been spread the hide of the bear killed by Malmgren, so that after more than a month of lying on the snow, which in melting had often compelled the party to lie in water, they were finally able to rest on a dry surface. In front of the tent were the two pneumatic boats dropped by Maddalena,

and they formed what Biagi proudly called "our fleet."

When the *Krassin* reached the "White Bear" encampment, the castaways had already packed into several bundles some of the better preserved clothing and any food which might still be of service. Most of the food supply had, however, been prudently packed in several bundles tied together and then fastened to the boats, so that in the event of a channel unexpectedly opening in the ice no provisions would have been lost, and the task of recovering them would have been rapid and easy.

A hundred yards away from the tent was the overturned Swedish aeroplane, with the engine still in perfect order. I made a search among the provisions for a tin of malted milk, which Captain Mariano had asked me to bring to him. Then the order was given to the sailors to take all the material on board.

General Nobile had sent a wireless message, asking that several instruments and the historical Red Tent should be saved. The Russian officers had even more definite ideas on the subject, and ordered the salvage of everything that could be found, not only on the last encampment, but also on the other floes previously occupied, which, strangely enough, had that day drifted into the immediate vicinity of the *Krassin*. In this way it

was possible to recover cameras, precious relics such as a part of the rudder of the airship, the solar compass, and several instruments, all of which had been abandoned on the ice where the *Italia* first fell, distant only a few hundred yards from the Red Tent encampment, but nevertheless very difficult to reach. Other articles of clothing and guns dropped by the relief expeditions were also recovered. Nobile had advised that some form of signal should be laid out on the ice-floe of the Red Tent encampment, but as far as I could see at the time this advice was not followed. Yet it is improbable that signals would have been of any service on the second expedition of the *Krassin,* because it can hardly be doubted that a few days after our departure the floe broke up completely and became scattered.

I helped Biagi to dismantle the tent, and after he had again indicated to the men of the *Krassin* the various points where the remainder of the material was lying, and had renewed his exhortations about the care of the wireless station, Biagi went on board with me. Previously, however, he had lifted with great care from the tent support the image of the Madonna of Loreto, which had already been carried across the Pole in 1926 on board the *Norge.*

. . . . . .

In less than two hours the fog had become thick

and the big mass of the *Krassin* could be seen only indistinctly. In the little saloon in the bows we found Lieutenant Viglieri, Engineer Troiani, and Professor Behounek, who had already cast aside their Polar clothing and were wearing the neat suits we had purchased at Bergen. Biagi, too, after having taken a bath, changed into new clothes and chose as his footwear a pair of high leather boots, which, he assured us, he intended to wear on his entry into Rome! Like the other members of the group, he too had a woollen cap, but he jokingly insisted on retaining the trophy of the General's headgear, which caused the greatest amusement among the crew.

The meeting between Lieutenant Viglieri and Mariano and Zappi was deeply moving. All of the Red Tent party would have liked to go to embrace the other two valiant survivors, but precise instructions had been given by the ship's doctor that nothing should be done which might fatigue his already sorely tried patients. I was, however, able to obtain permission from the doctor that at least Lieutenant Viglieri might pay a visit to the ship's hospital in the name of his comrades. Viglieri knelt down near the little bed of Captain Mariano and embraced and kissed him with great feeling, murmuring words of comfort and good wishes. The meeting between the heads of the two groups lasted

but a few minutes. Their affectionate words reached no other ears, so low were their voices. Viglieri then warmly wrung the hand of Zappi, and left the hospital.

The commander of the *Krassin* made a special concession in honour of the rescued men; Professor Samoilovic opened a bottle of cognac. After I had swallowed my little glass of this, Biagi turned to me remarking: "Try this; it's better," and handed me a small bottle of cognac, a relic from the medicine-chest of Lundborg.

That evening the small orchestra of the *Krassin* gave another concert; but while all the crew were rejoicing at the unexpectedly rapid rescue of the two groups, the joy of the castaways was clouded by the thought of the uncertain fate of their other comrades carried away with the balloon, to whom all our thoughts were constantly turned. All of us, however, had strong faith in the search operations which, we felt, must be continued. The last word had not, therefore, been said. As Cecioni remarked:

"A search must be made for them. We owe them a debt of gratitude for the provisions they threw down to us, and for this, if for no other reason, the search must go on. Think for a moment what would have become of us all if Arduino had not quickly obeyed the order to 'throw.' There

was very little indeed in our cabin, and not even the bear that Malmgren killed would have saved us."

What had happened to the balloon? Various theories were put forward. All had seen through the mist a column of smoke rise at a distance estimated at 12 to 20 miles. The smoke was black and rose from the ice. It did not come, therefore, from an explosion of hydrogen up in the air. It was possible that in striking against the pack a spark from the engines had caused the petrol tanks to take fire; in this case some of the party might have fallen on the ice and survived. It might even be that some of the petrol tanks had fallen from a considerable height and then exploded, while the balloon had continued its flight. Admissible also was the hypothesis that after having made a relatively good landing, some of the survivors, perhaps on the initiative of Lieutenant Arduino, who was well known for his presence of mind and enterprise, had voluntarily set fire to some tins of petrol in order to signal their position to their companions of the control cabin. It was possible to put forward numerous theories, and the rescued men refused in their hearts to believe in the death of their comrades.

Discussions, which centred exclusively on the possibility still existing of tracing the balloon and thus

Rescued and Rescuers

This photograph was taken on the ice-pack just before the survivors from the Red Tent were taken on board the *Krassin*. In the front row: Engineer Troiani (with cap in hand), Commander Oras, Lieutenant Viglieri, and Professor Samoilovic

ascertaining the fate of the six missing men, continued until the early hours of the morning, when fatigue induced Cecioni and Troiani to retire to the cabins which the commander had cleared for them. What joy it would be to find the rest of the *Italia's* crew and return with them to Italy!

The commander of the *Krassin* exchanged a series of messages with the *Città di Milano* and with the Moscow Relief Committee regarding a continuation of the search, and the result was anxiously awaited by all of us. A point in favour of immediate continuation was our proximity to the point where presumably the balloon had fallen. Against it were the lack of an aeroplane (seeing that Tschuchnovski was out of action at Cape Wrede) and the condition of Captain Mariano, which was causing the greatest concern. From the very first, in fact, the ship's doctor, Dr. Sriedniewski, had expressed his conviction that an operation was imperative; but the facilities offered by the *Krassin's* hospital were not favourable to an operation on board the vessel. The damage to the ship need not have been a serious cause for alarm, since she might have remained at anchor until the conclusion of the aerial reconnaissances. The consumption of coal would have been reduced to 5 tons a day, and the *Krassin* still had on board 1,400 tons.

Throughout the day of July 13 a very thick fog

hung over the whole zone and made it impossible to see from the deck of the *Krassin* the traces of the encampment, which lay not more than 100 yards away. All the material belonging to the Red Tent party had in the meantime been taken on board. This included nearly 2 cwt. of food supplies, including half a tin of butter and 2½ tins of excellent Swedish pemmican, a part of which was later offered to Tschuchnovski. These provisions had formed the "gold reserves" of the castaways, with which they would have faced the journey towards the neighbouring land, if relief had been long in arriving, or if the condition of the pack had made a stay on the ice really dangerous. Even Lundborg's aeroplane was taken on board, to be afterwards handed over to the Swedish mission.

The castaways, who after donning fresh clothes had become the smartest passengers in the *Krassin,* crowned their return to social life by making a careful toilet. Biagi was the first to give the example by cutting and shaving off the long shaggy beard which he had grown in the previous weeks. He was soon followed by the others. At lunch they presented an entirely new aspect. Biagi set himself to receive the "Polar messages" that had reached the *Città di Milano,* but had not been transmitted to the Red Tent because of atmospheric disturbances.

Fifty-two telegrams were received that morning by the rescued men from their families and from official sources, and many messages of congratulation reached the head of the expedition, Professor Samoilovic, and Captain Eggi—moving expressions of gratitude for their untiring efforts and the rescue of the *Italia* survivors. Particular pleasure was given to Professor Samoilovic and to the crew of the *Krassin* by telegrams received from Signor Mussolini and General Nobile. Biagi, who was anxiously awaiting the news of an expected addition to his family, received instead a communication from the Rome Municipality in which he was threatened with the seizure of some of his household effects, because he had not paid the tax on his dog. Biagi wanted to reply: "I await officer on pack," but gave up the idea in order, as he said, to avoid causing the functionary an uncomfortable journey!

That morning, too, news arrived of the rescue of Sora and Van Dongen by Swedish and Finnish aviators, who had flown to Foyn Island, following indications given by the *Krassin*. This aroused more disappointment than joy, as the *Krassin* found herself deprived of the satisfaction of saving two more brave men.

CHAPTER VI

THE CATASTROPHE AND AFTER

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The story of the *Italia* catastrophe told by the survivors—The cruise over the Pole—The return journey and the struggle against fog and wind—The terrible crash—The unhurt and the injured—Biagi's "little box"—The departure of Mariano, Zappi, and Malmgren—The life of the castaways—Games and recreations—The "Skin Exchange"—Lundborg's descent and the rescue of Nobile—The silence of the wireless—The anxieties of the last days.

OWING to the unfavourable weather, which made life on deck anything but pleasant, the survivors of the *Italia* spent most of their time in the mess-room, which, with their arrival, had become incredibly crowded. Here, listened to with intense interest by all, the members of the expedition gave details of their extraordinary life on the pack from that terrible May 25, when the splendid airship fell headlong to destruction only a few miles from land, to the long-delayed appearance of the *Krassin*.

No one could explain exactly how the catastrophe occurred. The voyage as far as the Pole had been excellent. The airship had cruised over the Pole for more than two hours, and had cast overboard first the Italian flag and then the cross entrusted to

the expedition by the Pope. A small gramophone had played the "Piave," a favourite war-time song, and other Italian tunes. Radiant with joy, all on board had shouted "Nobile for ever," "Long live Italy!" Nobile had shaken hands with Malmgren, expressing his satisfaction at having been a second time to the Pole in his company. It had been planned that a small scientific party, composed of Mariano, Malmgren, and Pontremoli, should descend on to the ice in order to carry out some oceanographic studies, but as time was growing short the idea had to be abandoned.

During the first few hours of the return journey everything had proceeded normally. The *Italia* had reached the zone which lies between 30° and 40° E. meridian. A fairly strong wind was blowing from the north-west, and banks of thin fog were being encountered. The low temperature had caused layers of ice to form on several strands of the wireless antenna. Gradually the weather grew worse, and, with the wind becoming more violent the speed of the airship was considerably reduced.

General Nobile had consulted Malmgren as soon as the first atmospheric difficulties had been encountered, asking him whether he did not consider it better to make for Alaska instead of returning to King's Bay, like the *Norge* two years before, or else to turn towards Siberia. Malmgren had rejected

both suggestions, expressing his conviction that the weather would improve and that it would, therefore, be possible to attempt the direct return journey without undue risk.

Meanwhile the fog had gradually grown thicker and thicker, and finally the *Italia* found herself flying "blind." At 3 o'clock on the morning of May 25, after nearly twenty-five hours' flying from the Pole, the *Italia* was reckoned by those on board to be about 120 miles from the northern coast of Western Spitsbergen. The wind, which had grown stronger and stronger, was, however, causing the airship to drift more and more towards the east. The full power from her three engines was being employed, but, in spite of this, there was a progressive loss of speed, and finally the airship was flying at not more than twenty-five miles an hour.

This was about 9 a.m. All on board realized that the situation was a difficult one, but there was a general feeling of confidence in the ability of the *Italia* to emerge victorious from the battle, as she had already done in the exciting journeys from Milan to Stolp and from Stolp to Vadsö. Suddenly —the time might have been 9.30 a.m.—it was noticed that the airship was falling rapidly. The engines were stopped, and it was found that the elevating rudder no longer answered to the controls. Cecioni, who was asleep on the keel of the vessel,

was called. He ascertained that a slight fault had developed and soon corrected it. The airship, in fact, began to rise again. Although none of the survivors was able to state with certainty what height she had attained, it seems that the *Italia* had risen to about 2,500 feet. The engines were re-started and the vessel continued in the direction of King's Bay.

At 10.27 a.m. Cecioni suddenly noticed that the balloon had grown heavy, and, in fact, the *Italia* began to fall. The engines were driven up to 1,300 revolutions, but without result. To the great alarm of its occupants, the airship continued to fall at an ever-increasing speed. General Nobile ordered Alessandrini to climb at once up to the valves to see if all was in order, and then dashed to the rudder, which at that moment was in the hands of Malmgren.

The tragedy began and ended within the space of two minutes. In spite of every effort to arrest the descent, the airship from a height of about 1,500 feet dropped lower and lower. She was perhaps 250 feet from the ice when the order was given to throw out all possible ballast. The men on the keel seized everything within reach and flung it over the side of the airship, but even this supreme effort availed nothing. The pack seemed to be rushing up to meet the terrified airmen, and a catastrophe

now appeared inevitable. A few yards from the ice the engines were stopped. The control cabin struck the pack with terrible violence and broke to pieces.

Those in the cabin at the time were General Nobile, Malmgren, Mariano, Zappi, Viglieri, Behounek, Troiani, Cecioni, Pomella, and Biagi. On the keel were Pontremoli and Lago, who were resting, Arduino, Alessandrini, Caratti, and Ciocca.

The terrific shock had completely smashed the cabin. Men and material were hurled on to the rough and broken surface of the ice. Drifts of snow enveloped everything, while the balloon, relieved of the weight of the ten men in the cabin and of much material, bounded up into the air, rolling heavily, and was quickly carried away, disappearing within a few moments from the anxious eyes of the fallen men.

The wrecked party had been strewn on the ice over a radius of some twenty yards. The first to get on their feet were Mariano and Biagi, who had both escaped injury. Nobile, with his face covered with blood and an arm and leg fractured, dragged himself painfully erect, while his companions were still lying on the snow, and shouted "Long live Italy!"—the first words to issue from the lips of the castaways.

All the party eventually picked themselves up

with the exception of Cecioni and the mechanic Pomella. The first had a compound fracture of a leg, and the second, after a vain attempt to rise, had attempted to take off one of his boots and, lying crouched up near the wreckage of the cabin, had not moved again. He was dead.

Malmgren had received bruises all down his left side, and his left arm was injured. Zappi felt his ribs and found that one had been broken. In addition to Mariano and Biagi, Viglieri, Troiani and Behounek had escaped unhurt. "Titina," the General's faithful little dog, was unharmed, and delighted at being on *terra firma* once again, raced wildly across the snow, rolling about and barking joyfully.

The five uninjured survivors next began to take stock of their surroundings. They walked a few paces across the snow, in which a deep hollow had been made by the fall of the cabin. All around as far as the eye could reach was a boundless expanse of white. Suddenly their eyes caught sight of a rising column of smoke a long distance away to the south-east, but plainly visible through the fog which overhung the whole of the region. It was the mysterious column of smoke which was the last sign of their companions who had been carried away with the balloon.

The Crew of the *Italia* at Stolp, with "Titina"

The temperature was 11° Cent. below freezing-point, and an icy wind was blowing strongly. The uninjured survivors helped to carry Cecioni to where Nobile was lying stretched out on the snow, and while first-aid was being rendered to the injured men, Malmgren made an examination of the pack with one of the pairs of binoculars that had been saved. Lying scattered at wide intervals on its surface were half-smashed packages and cases containing food supplies and petrol, the tent, navigation instruments, a big pistol with ammunition, various small knives forming part of the kitchen equipment of the vessel, and the little box containing the field wireless set and accumulators.

The tent was one of the first objects to be picked up. A few hours after the disaster it had been erected, and Nobile and Cecioni had been laid inside it on the only fur sleeping-bag that had been saved. Then began the fatiguing search on the rugged surface of the pack for material thrown from the airship. The survivors were not trained to, or adequately equipped for, a long stay on the ice, and the recovery of the food supplies and other stores was strenuous work. Yet by the afternoon of that day (May 25), almost all the provisions and the essential parts of the wireless outfit had been collected.

. . . . . .

After a preliminary inventory of the recovered material had been made, the survivors began to feel that their position, although extremely difficult, could not be considered desperate. They had the tent, food supplies which, while not being abundant, were nevertheless sufficient for some time, the necessary instruments for calculating their position, fuel, and matches. The same evening Malmgren succeeded in preparing the first pemmican soup in a petrol tin. Then, after having attended as best they could to the two more seriously injured men, Nobile and Cecioni, the party laid themselves down to rest, huddling up close to each other on the snow inside the tent.

On May 26 and 27 the work of recovering the material continued. The drift was very strong and the field on which the castaways had fallen moved at an alarming rate towards Franz Josef Land, to which, it was considered, search operations were not likely to be extended. Nobile pointed out that it was improbable that the displacement of the pack was being caused only by sea currents, and attributed the speed of the drift rather to the wind. In spite of this observation, which afterwards proved to be well founded, since the drift slackened when the wind fell, the movement of the pack caused the greatest alarm among the marooned men, and was one of the principal causes which led Malmgren,

Mariano and Zappi to make their desperate attempt.

It was on the evening of May 28 that Malmgren put forward his proposal to attempt to reach the land. The position of the survivors on the pack was not such as to lead them to hope for a rapid rescue of the whole group. A few hours after the catastrophe Biagi had succeeded in setting up the wireless station in perfect working order, and had begun to send out S.O.S. signals. Up to that evening it seemed as if none of his signals had been picked up. On the contrary, the castaways could easily intercept the messages launched by the *Città di Milano* and the station of San Paolo at Rome, and the communications that these two stations were exchanging on the possible fate of the *Italia* and on the relief expeditions that were being organized.

Biagi was confident that his appeals would sooner or later be heard, and in order to test the efficiency of the "little box," he had taken the receiver a few hundred yards away, as far, that is, as the condition of the pack would allow him, and had received the signals which Lieutenant Viglieri had transmitted to him. The "little box" was, therefore, working, and it was only necessary to continue to send out signals.

This opinion was, however, not shared by all in the tent. The food supplies might last two months

at the most by a strict system of rationing. An attempt by the whole party to march towards the land, the outline of which could be seen a long distance away, seemed impossible owing to the presence of the two badly injured men, Nobile and Cecioni. There were no sledges, and one that had been put together by Cecioni from fragments of the broken cabin appeared quite unsuitable for a long journey. It was, therefore, not only advisable but, indeed, necessary, Malmgren urged, that some members of the group should attempt to reach Cape North, Spitsbergen, in order to establish contact with the relief expeditions, which, as had been learned from intercepted wireless messages, would extend their search as far as that point.

After some hesitation, Nobile agreed that the attempt should be made, and Malmgren was joined by Mariano and Zappi. After taking their share of the provisions, the three intrepid men left the tent on the night of May 30. The parting between them and their companions who were being left behind was simple and moving. Not one of them could at that moment have imagined that they would meet again, six weeks later, on board a Russian ship, though reduced in number.

After the Malmgren party's departure, the immediate hopes of the Red Tent castaways were placed in the working of the wireless station. When it

was learned that Rijser Larsen had reached Spitsbergen, that Maddalena and Penzo were in flight towards the north, and that Amundsen was preparing an expedition, the group began to hope that rescue would not be long delayed. It was known that search was being made along the north coast of Spitsbergen. The conviction grew that the search would inevitably be extended to the coast of North-East Land. The *Hobby* and *Braganza* were advancing towards the east. Sora and his Alpini, whose daring and skill were known, were joining in the search. Cape Leigh Smith and Broch and Foyn Islands seemed to be coming nearer. This agony, therefore, could not last much longer.

Then one day news reached the castaways that a Russian farmer at Archangel had picked up one of their appeals. From the discussions which this news caused in the Press throughout the world, the marooned party, who were kept informed of these matters through the wireless messages they intercepted, learned that part of the appeal of the *Italia* had been received correctly and part had been badly mutilated. Biagi wanted to repeat the appeal, but could not remember on what wave-length he had sent out the message picked up by the Russian. He continued to launch his messages more or less blindly on various wave-lengths until the memorable

day of June 8, when, finally, the first conversation took place with the *Città di Milano*.

From the very first day the management of the kitchen was taken over by Engineer Troiani, the engineer-philosopher, with Professor Behounek as vice-manager. To them fell the task of attempting to reconcile two opposing needs; they had to furnish the greatest possible nutriment and to make the scanty supplies last as long as possible. The morning meal consisted of a small piece of chocolate, to which later was added a little milk. At midday a little bear flesh was served, with a small ration of pemmican. In the evening there was a repetition of the midday meal.

The bear had been killed by Malmgren three days after the catastrophe, with one well-aimed shot. This bear was providential for the party, for at that time the provisions were anything but abundant, and the weak state of health of part of the stranded group fully justified the most gloomy forecasts. The skinning and cutting-up of the animal proved a very laborious job, as the castaways were without suitable knives and had to make use of small and light table cutlery. The bear's flesh, which was roasted in little strips, as to have boiled it would have consumed too much fuel, provided excellent nourishment for almost a month and carried the survivors on until relief came by air.

With acknowledgments to A.-B. Text & Bilder

Biagi's Wireless on the Ice-Pack

Altogether seven visits were paid by bears, but the Italians were unlucky in their attempts to shoot them and used up the last of the revolver ammunition. Miracles, such as the killing by Malmgren of a bear with a single shot on the night of May 28, only happen once. Guns are necessary, above all, for hunting such tough beasts, and the marooned party were unprovided with guns at the time. When suitable arms had been received, the bears never showed themselves. Biagi related that once, while busy at his "little box" receiving messages, he heard the counterpoise of the aerial fall. He turned, thinking that this had been caused by a gust of wind, and saw a gigantic bear standing a couple of yards away. He endeavoured to seize a gun, but the bear quickly made off into safety.

Food was cooked by using up everything burnable that had been found among the wreckage of the cabin. Later an oil stove dropped by one of the aeroplanes met all needs. Petrol tins were used as pots and saucepans, and a small pan was made out of a piece of aluminium sheeting. Spoons and forks were cut from pieces of tin. The only glass was a glass cap which had originally served to protect a lamp on board the *Italia;* all used it for drinking water, soup, or milk. Matches were never lacking, as two big tins were luckily found among the wreckage. Three and a half tins of petrol were

also recovered; they provided about 40 litres of precious fuel.

A most exciting day for the castaways was June 20, when Maddalena first located the little tent amid the rugged chaos of the pack, and dropped on the encampment the first supplies from the air. Biagi had painted the tent with large red stripes in order to make it more visible, using colours which were kept on board the *Italia* for checking the progress of the airship.

Rijser Larsen and Luetzow Holm had already flown in the immediate vicinity of the tent. The two Norwegian airmen had on previous days made several attempts, flying either together or separately, but without result. The stranded men had seen the Norwegian machines in flight several miles away in different directions, but as the small aeroplanes were unprovided with wireless, it had been impossible to guide them as far as the tent. To find the tent indeed in that huge irregular expanse of ice was like looking for a needle in a haystack. The various signals that the wrecked men made with the means at their disposal proved in vain. At the same time the attempts of Rijser Larsen and Luetzow Holm, in spite of their lack of success, must be written down as magnificent efforts, since the flying capacity of the machines did not exceed four hours, and the two airmen remained

in the air until almost all their petrol was exhausted, exposing themselves to the risk of a forced descent through lack of fuel.

Nor was the first attempt of Maddalena a success, and the paradoxical situation was repeated of the castaways seeing the rescuer without being seen by him. Salvation was once again brought by the now famous "little box" of Biagi. It was realized that some special way would have to be found to enable the airmen to locate the position of the encampment, and to this end a special code of signals was drawn up between the castaways and the *Città di Milano*. Maddalena, guided by the signals, succeeded at his fifth attempt, on the morning of June 20, shortly after 10.30, and packages containing precious supplies were dropped within reach of the castaways. These included two pneumatic boats which Nobile had insistently asked for, so as to be able in case of need to cross the channels which had already several times seriously threatened the safety of the party; guns and ammunition; condensed milk; and leather boots to replace the *finsko* which the men were wearing and which were unsuitable for a long stay on the ice. Part of the supplies, including the accumulators, dropped from the air were damaged in falling. Of even greater comfort to the castaways than material aid was the fact that finally, after so many uncertainties, the airmen's

relief efforts had been successful in discovering the encampment.

. . . . . .

From that day the occupants of the Red Tent were able to be less sparing in the consumption of their supplies of victuals and, above all, could put aside such reserves as would once and for all relieve them of the tormenting anxiety that within a short period their provisions would become exhausted. The revictualling afterwards carried out by the Swedes permitted the marooned men even to indulge in small feasts; at least they appeared as such to men who for a month had been used to measuring every ounce of their food before eating it. When the wireless brought any item of good news, everyone was presented with a malted milk tablet, which was kept in the mouth and religiously enjoyed until the very last grain. On July 2 the group offered to their chief a little piece of chocolate weighing less than half an ounce, to celebrate the birthday of Lieutenant Viglieri!

After regular communication had been established by wireless, Biagi received every evening at 9 o'clock the Press bulletin from Rome, so that the castaways were able to keep in touch with the most important events happening throughout the world. That hour, which saw the stranded men all gathered in the tent, anxious to hear the voice of their distant

country, was the best of the whole day. Communication with the *Città di Milano* took place several times daily, and the members of the group were thus able to receive news from their families. They were even able to hear wireless concerts transmitted by the stations of Paris, Amsterdam, Berlin, and other capitals. And all this while on the pack in lat. 80° 30′!

After the first days of gloom, hope never deserted the encampment. In order to pass the time, they had improvised as best they could games of draughts and chess, of which they became assiduous players. The interest with which the play was followed by all furnished a sign of the calm spirit which existed. Every day long discussions took place on the possibilities of rescue, and a "price," based on the results of the day, was fixed for the lives of the party. The most extraordinary of all Stock Exchanges was set up—the "Skin Exchange." Its members quoted the prices their own skins were worth! Prices, naturally, had the most violent fluctuations. On some days the stock fell as low as 40 lire from its nominal value of 100 lire. The news of the departure of the *Krassin* from Leningrad caused a rise of 25 lire. The message of the *Città di Milano* informing the Red Tent that the ice-breaker had rounded Cape North caused a rapid appreciation. The market became very unsettled when it was known that the *Krassin* was imprisoned in the ice, but, after the ice-

breaker had resumed its advance, stock rapidly jumped up to par.

The event fraught with the most immediate consequences for life at the Red Tent encampment, which by that time was proceeding in an intimate atmosphere of real comradeship, was the daring landing of the Swede, Lundborg. After having twice touched the snow with the long runners with which it was fitted, the machine had been brought to rest on the pack by skilful handling. The descent was made about 150 yards from the tent, so that every detail of the manœuvre was witnessed by the castaways. Accompanying the pilot Lundborg was the officer-observer Rosenvard. This first meeting between rescuers and the stranded men forms one of the most exciting and moving episodes in the history of the Nobile expedition.

The Swedish airmen, whose fixed intention it was to begin the direct rescue of the castaways, announced that their leader, Captain Tornberg, had given orders that General Nobile was to be the first to be taken on board. The General, however, flatly refused to go, and pointed out that Cecioni, who was injured, ought to be the first to be transported to the *Città di Milano*. Lundborg very rightly pointed out, however, that Cecioni, owing to his great weight and his stiff leg, was at that moment the person least adapted to the machine, see-

ing that this had also to carry the observer. Cecioni himself agreed that Lundborg was right. As General Nobile, in addition to being injured, seemed to be the man most indicated by his experience and knowledge of the circumstances of the catastrophe to co-ordinate and guide in their vital phase the relief plans for rescuing also the balloon party, all of the Red Tent group were of the opinion that the Swedish proposal was the one most likely to have the best results for the common good. For the rest, Lundborg promised that he would return that night without the observer and transport Cecioni to the *Città di Milano,* taking advantage of the fine weather and strong sunlight.

General Nobile's leave-taking of his companions was marked by the greatest simplicity, and it is certain that, as he stepped with "Titina" on board the machine, he was far from thinking that the separation would last for three long weeks.

But once again fate showed itself implacable towards the survivors of a gallant enterprise. On its return to the Red Tent, the Swedish aeroplane made a bad landing, overturned and was damaged at several vital points. Lundborg, therefore, became a prisoner at the Red Tent in place of General Nobile, and a new and restless element entered into the daily life of the group.

Lundborg, a man of lively temperament, seeing

the land a short distance away, believed it could easily be reached. The discussions which followed, conducted as they were by persons already sorely tried, who for a month, in conditions very much worse, had struggled gallantly against the menace of death, caused moments of perturbation. An attempt to reach the land with the means then available would have meant the abandonment of Cecioni, and it was uncertain whether Troiani and Behounek were in a condition to support the exertions of such a journey. Lundborg's proposal was, therefore, rejected by the marooned party, who considered that the group ought not to split up any farther, and that an attempt to reach the coast might be made later with the pneumatic boats when the pack began to break up completely. Cecioni, however, must first be saved. It was pointed out that the moment for a desperate exploit of that kind had not yet arrived, as many other rescue attempts were then being made—that of the *Krassin* above all, in which Cecioni, with happy intuition, felt particularly confident. It was for this reason also that General Nobile, to whom Lundborg telegraphed asking for his consent to the plan, replied by immediately rejecting it. In fact all of the Red Tent party, after the accident to Lundborg and the non-return of Schyberg (who when after he had rescued Lundborg, never appeared again, although his base

With acknowledgments to A.–B. Text & Bilder

Nobile Being Helped on Board Lundborg's Machine by Professor Behounek, and Another Member of the Expedition Behind

was on the little island of Eismark, a flight of barely fifteen minutes from the Red Tent), placed their greatest hopes in the Russian vessel, because the extremely variable weather conditions greatly reduced the possibilities of rescue by air.

The last days at the Red Tent were not happy. On all sides the pack showed unmistakably that its breaking-up would not be long delayed. This made the probability of a landing by aircraft more remote than ever; the *Krassin* appeared to be hopelessly blocked, at least for some time; and wireless communication had broken down. This was due, as we know, to the general atmospheric disturbances which affected also the *Città di Milano;* but the castaways, unaware of this, believed that their station was failing them. The "little box" and the receiver were completely taken to pieces, and each part was carefully examined without any breakage being found. During this operation a thin wire snapped off, and it was Cecioni who executed the difficult work of re-soldering it with a drop of solder taken from a petrol tin. The apparatus was then reassembled, but still without result; the wireless, to the desperation of all, continued "on strike." Then the phenomenon ceased, and the castaways were able to learn that the *Krassin* had resumed her advance. Hope revived, and the last twenty-four hours of the vessel's progress were followed with anxiety and emotion.

CHAPTER VII

THE RETURN VOYAGE TO KING'S BAY

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THE RETURN VOYAGE TO KING'S BAY

The last salute to the pack and to the memory of Pomella—Life of the survivors on board—Mariano's foot develops gangrene—Tschuchnovski and his companions taken on board—A generous gesture of the *Sucaini*—The Norwegian Nois—His hunting exploits and his scientific observations—The meeting with the *Braganza*—King's Bay is reached—The amputation of Mariano's foot.

ONCE on board the *Krassin,* Behounek expressed great pleasure at having saved his notes and his apparatus for measuring the cosmic rays. He had made numerous observations of particular interest, because the apparatus was not influenced by terrestrial rays on the pack. He was thus able to collect data regarding electric conductibility and the cosmic rays in the atmosphere over all the zone covered by the route followed by the airship, and especially at the North Pole.

We had been sleeping perhaps two hours, when at 3 a.m. on July 14 the sound of rattling windlasses and creaking capstans reached our ears. The anchor was being weighed. We quickly went on deck, where Professor Samoilovic told us that the ship would be on the move within an hour at the most.

"Towards the east or the west?"

"For King's Bay," replied Samoilovic.

These words aroused a sharp pang of disappointment. The idea of immediately going on with the search for the Pontremoli group had, therefore, been given up. Professor Samoilovic, divining our thoughts, said:

"We shall not be away long. It is necessary to pick up Tschuchnovski and his companions, place the survivors on board the *Città di Milano,* and take in water and re-coal at King's Bay and Advent Bay. Then we shall reascend past Hinlopen Strait, and shall, therefore, be here again within a few days."

The Russians reckoned on taking in water at Ny Aalesund in two or three days at the most, and coal at Advent Bay in three or four days. At Ny Aalesund the *Krassin* could not lie up alongside the quay owing to insufficient depth of water. At Advent Bay an attempt was to be made to replace the broken blade of the propeller and to make summary repairs to the damaged rudder. Unfortunately these optimistic anticipations were not to be realized.

As the ice-breaker slowly began to get under way, we gave a last salute to the pack, which for forty-nine days had held prisoner the survivors of the *Italia.* Biagi especially seemed to be looking with some emotion at the point where the tent used to stand.

"Biagi," I asked him, "are you sorry to leave this summer resort?"

"Well, we had got things running well. . . . Manna used to fall from the sky. Our meals, you might say, used to cost us nothing."

"Would you come back again?"

"With the General, yes!" Biagi replied simply.

Suddenly he seized me by the arm, and looking into the distance where a few dark marks still showed on the whiteness of the ice the point where the *Italia* had struck the pack, he murmured a name:

"Pomella. . . ."

Removing the General's hat, he knelt on the deck of the *Krassin* before the heap of material saved from the *Italia* and bent his head in prayer. Deeply moved, I followed his example. This was the supreme salute that we gave to the memory of the first victim of the disaster, who sleeps there at the bottom of the sea.

The first hours of navigation passed without any incident worth recording. We were taking the route by which we had come. Steaming at a speed of about 4 miles an hour, the *Krassin* pushed her way through banks of scattered ice, and reached some open sea. The weather had become fine. After making his midday observations, Commander Oras came to me and asked:

"Do you know where we are?"

"I see Foyn Island, then Cape Platen," I replied.

"We are now," Commander Oras said, "exactly on the spot where the day before yesterday we rescued Mariano and Zappi on the pack. The winds from the south and the east have dispersed the ice, and if we had delayed a single day, it is most probable that the two men would not have been saved."

Meanwhile the rescued men began to settle down to their new life. Lieutenant Viglieri in the captain's saloon was putting his notes in order. Professor Behounek was thinking out the report he intended to make on the scientific observations he had collected. Cecioni watched with curiosity the noisy coming and going of officers and journalists, from an armchair placed in the bows. His injured leg troubled him a little, but was not painful; the splints, which had been made from pieces of the cabin of the *Italia*—the sole authentic relics with the exception of a fragment of the rudder—resisted well. The fractured limb had not healed properly, but by supporting himself on a pair of crutches found on board the *Krassin,* Cecioni could make his way to his cabin without help, and could even ascend to the deck. The operation was not easy, but, by using his arms and going up the companion-way backwards, he nevertheless succeeded.

Biagi, who had immediately become close friends

with the wireless operators of the ice-breaker, passed most of the day and the best part of the night in the little wireless cabin of the ship, delighted at being able to communicate with his fellow-operators on board the *Città di Milano*. EngineerTroiani, whose feet were giving him trouble, had been transferred to the ship's hospital, where he occupied a berth over that of Captain Mariano, and passed his time in reading *La Noce sur le Pack* or in delving into records of Polar exploration, greatly scandalizing the other survivors, who declared that they had had quite enough of the pack and of Arctic expeditions.

Captain Zappi was restless and at the same time a little feverish, but the doctor stated that this was the inevitable reaction; the warm and damp air of the ship's hospital was a contributory factor. In any case he gradually began to resume a normal diet.

On the whole the health of the survivors, apart from a few rheumatic after-effects (which, for example, caused swellings on the feet of Professor Behounek) was comparatively good. On the pack they had rationed themselves severely with admirable self-control, fearing that the position might become worse, even when towards the last supplies were not lacking. In spite of over-exertion, Biagi, who was constitutionally strong and a sportsman used to supporting fatigue, was in excellent health.

It was his good fortune to be the only one of the wrecked party who at the moment of the catastrophe was wearing leather boots, as he was working in the wireless cabin, which was fairly warm. The others had found it necessary to wear Esquimaux footwear, which gives greater warmth. This enabled Biagi to carry out with relative ease the heaviest tasks on the pack, as he could climb about on the ice more easily than the others by binding rope around his boots. These boots of Biagi's were the apple of his eye, and when Malmgren, on the eve of his departure with Mariano and Zappi, offered a gold watch and chain in exchange for the boots, Biagi refused, as in the circumstances he set a greater value on them than on anything else.

What caused the greatest concern now was the condition of Mariano. Gangrene had developed in the right foot, and showed itself clearly at two principal points, in the phalanges and at the heel, while inflammation was present in the hollow of the foot. Early amputation was necessary. Captain Mariano, with his stoic serenity, reassured the doctor, saying:

"Doctor, I had already given up hopes of life. Amputate as far as is necessary."

Three plans were discussed. The first was to transport Captain Mariano to Berlin for the operation; the second to carry it out at Oslo or

After the Meeting of the *Krassin* and the *Braganza*, 80° 31′ Lat. N., 21° 32′ Long. E.

The man holding the bottle is Cecioni.

Tromsö, and the third to amputate the foot on board the *Città di Milano.* Messages were exchanged with Commandant Romagna, and it was arranged that the *Krassin* and *Braganza* should meet at the ice-barrier off Cape North in order that Dr. Cendali, a medical officer of the Italian Navy, should come on board for a consultation.

Meanwhile the ice-breaker, passing south of Charles XII Island, made for Cape Wrede to pick up Tschuchnovski and his companions. After rounding Cape Platen, we encountered at the entrance to a deep bay very thick ice, which offered serious resistance.

The *Krassin* was compelled to resort to the shock tactics of the grand days, and the advance became very slow. On the morning of July 15 a snowstorm swept across the whole region, hiding everything more than a hundred yards away. Redoubled precautions had to be taken, as we were near to the coast and the marine charts gave very few indications of the depth of the sea in that zone.

Now and again when the north wind cleared the air, we caught glimpses of the low and glacier-covered mountains of this jagged coast. Navigation in these difficult conditions continued until 4 o'clock in the afternoon, when at last we were able to discern about two miles away a dark patch on the ice. It was Tschuchnovski's machine.

As it was only possible to proceed at a walking pace and the compactness of the ice seemed to be increasing, the vessel stopped for a short time. A wireless operator and a Russian journalist, carrying food and medical stores, descended on to the ice and made off on ski towards the little encampment. Through our glasses we followed the swift progress of the two ski-ers across the perfectly smooth surface, broken only by a few patches of water, until finally the fog hid them from our view. The *Krassin* continued her slow advance for a further two or three hundred yards, and then stopped again to await news from the two men.

Two hours later we saw several figures coming towards us, emerging from the fog, as they came nearer to the ship, as if from thick clouds of vapour. Undoubtedly Tschuchnovski and his companions were returning with our two messengers. But the number of persons approaching continued to grow. First we counted eight, then ten, and finally eleven. The crew of the Junkers aeroplane and the two ski-ers from the *Krassin* numbered only seven in all. Who could the others be?

For a moment there was tense curiosity on board. Had the missing crew of the *Latham* been found?

When the party were a few yards from the ship, I heard the deep silence broken by several expressive

exclamations in Italian. Some Italians at Cape Wrede! What a strange and interesting meeting. They proved, in fact, to be the *Sucaini,*[1] Engineers Albertini and Matteoda, Sergeant-Major Gualdi of the Italian Alpine Corps, and the Norwegian guide Nois. While in the *Braganza* they had received news of the forced landing of Tschuchnovski, and had immediately set out with food supplies and medical stores to render the gallant Russian "ace" and his companions any assistance of which they might be in need. The three Italians were given a very warm welcome, not only because of their noble gesture in going quickly to the aid of Tschuchnovski, but also and principally because of the proof they had furnished of their pluck, endurance, and skill, fairly ample details of which had already reached the ears of all on board the *Krassin.*

These *Sucaini* were, in fact, magnificent specimens of young manhood—Albertini, slim, with a short, pointed beard, and Matteoda, round-faced and overflowing with health and good-nature—who by their bold marches have added new pages to the history of Polar expeditions. Immediately after the catastrophe of the *Italia,* accompanied by the hunter Kramer and Major Sandrini of the Alpini, they had carried out the first reconnaissances along the north-

[1] *Sucaini* is the name commonly given to the members of the *Sucai* (Studenti Universitari Club Alpino Italiano), or University Students' Section of the Italian Alpine Club.

ern coast of Western Spitsbergen to ascertain if the few hunters who inhabit that region had seen the airship during her return flight. Then they undertook —and this is where they were put to the test—to explore the whole of the coast of North-East Land from Beverly Sound, where they disembarked from the *Braganza,* to Cape Leigh Smith in search of the Mariano group. The party numbered four—Albertini, Matteoda, and the hunters Nois and Tornberg, who drove the dog teams of the sledges. In a fortnight the little patrol completed the entire journey as far as Cape Leigh Smith, afterwards returning to the *Braganza.* Nearly 450 miles were thus covered across pack-ice already breaking up or over the ice which still covered the coast. They carefully explored the whole zone, and on returning were able to state with certainty that none of the wrecked crew of the *Italia* had reached the coast. During this march they proved beyond question that several so-called promontories were in reality little islands; they discovered new bays, lakes, and mountains; and they gathered data which will enable ample corrections to be made on maps showing the topography of the northern coast of North-East Land. They had carried out in a fortnight what great scientific expeditions had not succeeded in achieving in many decades.

On one day early in July, when they had reached

Cape Leigh Smith, they were only a few miles from the Red Tent. On that very day Lieutenant Viglieri believed he caught sight of some figures moving on the land and communicated his belief to his companions, but nobody thought that any search party could possibly have reached that point, and no importance was given to the matter. If the castaways or the *Sucaini* had that day been able to make some smoke signals, the rescue of the Red Tent group would have taken place several weeks earlier. The *Sucaini* had barely reached the *Braganza* when news came of the landing of Tschuchnovski at Cape Wrede. They lost no time in starting out again, accompanied this time by Sergeant-Major Gualdi of the Alpini and the Norwegian Nois, crossing many bays, still frozen but no longer safe owing to the splitting up of the ice, in their magnificent march. Their arrival alongside the *Krassin,* to which, as it slowly moved through the ice, they made signals to stop just as if they were hailing a taxi-cab, was one of the most singular episodes in the adventurous journey of the ice-breaker.

Nois, the Norwegian, was a most interesting type of man. He is one of the very few hunters—there are not more than three or four—who regularly pass the winter on the northern coast of Western Spitsbergen, absolutely alone, occupying a primitive log hut, facing with incredible indifference

the rigorous season, when the temperature sinks as low as 35° and 40° Cent. below freezing-point, the solitude aggravated by the Polar night and by privations of every kind. They kill bears, on which they throw themselves while the beasts are still struggling in their death-agonies, in order to suck the warm blood which gushes out of the wounds. They trap white and blue foxes and live on the flesh of the animals they kill, the valuable furs of which they afterwards take to Green Harbour and to Ny Aalesund once a year to exchange for food, arms, and ammunition. It is only on these occasions that they come into contact with the last outposts of civilized society. Then they return across icy wastes on foot or by boat to their poor huts and half-savage life.

This brave Nois, as shy and embarrassed as a schoolgirl, has during his lifetime killed hundreds of foxes and over 150 white bears, with some of which he has had to engage in a desperate struggle, defending himself with knives from their attacks. In spite of his semi-barbaric aspect, Nois is a useful and diligent servant of science. He keeps a very accurate diary containing observations on the movements of the ice and on the fauna and flora of the region. He forwards to Norway every year a report which is published in international scientific reviews dealing with Arctic studies.

Dogs on Board the *Città di Milano*

Having discovered that I was a journalist, Nois at once wanted to find out what was happening in the outside world, and he asked me before anything else how the trial of Sacco and Vanzetti had ended and if "the two Frenchmen" (Nungesser and Coli) had succeeded in flying across the Atlantic. His last news dated from that period. Politics did not interest him.

We endeavoured to show to Tschuchnovski and his gallant companions the very deep gratitude we felt towards them for their brave efforts. Captain Zappi, who had that day left the ship's hospital for the first time, kissed the man who had brought about his rescue, the meeting between the two forming a scene which deeply affected all those present. Tschuchnovski and his party had borne their five days' enforced stay at Cape Wrede with admirable serenity. By killing two reindeer at a point very near to the coast, they had provided themselves with abundant meat. Nothing had been lacking except salt, and Tschuchnovski felt grieved about this only because its omission seemed to constitute a flaw in his faultless work of organization. The clothing that he had intended to throw down to the Red Tent party had been of great service to him and his comrades.

Spare parts were taken to the aeroplane by means of sledges, and during the night the mechanics car-

ried out the work of replacing the broken air-screws and repairing certain parts of the fuselage. On the morning of July 16, Tschuchnovski set the engines running and "taxied" over the snow to the ship, where, by skilful handling and without using the sloping track, the aeroplane was hoisted on board and safely secured inside its cage of logs.

The *Krassin* then made for Cape North to meet the *Braganza*. We could see the smoke from the funnels of the little whaler about six miles away, but it took us more than three hours to reach her. By clever seamanship the huge ice-breaker was brought alongside the *Braganza,* until only two yards separated the vessels, the skilful manœuvre arousing the unstinted admiration of Mr. Swensen, owner and captain of the whaler, and his crew. A ladder was run out between the two ships, and the second-in-command of the *Città di Milano,* Commander Baldizzone, boarded the ice-breaker to greet the survivors of the *Italia.* He was followed by Lieutenant Dr. Elido Cendali, the surgeon on the *Città di Milano,* who had been sent on board the *Braganza* with the idea of eventually rendering assistance to the castaways, whom the Norwegian whaler had been insistently seeking in those waters from the beginning of the rescue operations.

After so many privations, the rescued men would have liked nothing better than to do full

honour to the wine-cellar of the *Braganza,* but, unfortunately, during the long stay of the whaler among the ice, her reserves had become depleted almost to vanishing-point, and only two solitary flasks of wine were discovered. Even these disappeared in some mysterious fashion; anyhow, in the evening any one of the interested parties would have been ready to swear that he had not even seen the colour of what was in them. Cecioni, who had been building great hopes on the meeting with the whaler, had to be content with a bottle of light liqueur, which was but a poor satisfaction to him.

On the departure of the *Krassin,* the *Braganza* attempted to follow her by nosing her way into the channels left open by the ice-breaker, but as we moved forward the ice closed in behind us too quickly, and soon made the advance of the *Braganza* impossible. Hence the whaler once again found herself a prisoner.

On the morning of July 17, Captain Mariano was examined by the Italian doctor and his Russian colleague. Their diagnosis stated that the gallant officer was suffering from gangrene in the right foot, and a surgical operation was considered indispensable and urgent. The outcome of the consultation was sent by wireless to the *Città di Milano,* with the request that immediate preparations should be made in her hospital.

At a point 10 miles west of the Seven Islands we reached the open sea and thus definitely left behind the ice-fields. The *Krassin* increased her speed, and about 7.30 on the morning of the 19th we reached King's Bay. Lying some distance off the coast, the *Krassin* cast anchor about half a mile away from the *Città di Milano,* the peculiar black outline of which stood out prominently against a white background of glaciers.

All the survivors with the exception of Mariano were on deck with their eyes eagerly strained towards the land on which they would soon set foot, and more particularly towards the distant hangar which had once housed the *Italia,* with its white outline conspicuous against the dark area of ground clear of snow.

Even before the gangway had been lowered, a motor-launch had left the *Città di Milano* and was cutting through the water towards us, the Italian flag fluttering at the stern; it carried Commandant Romagna, impatient to welcome back the survivors. As the lowering of the gangway took some time, the motor-launch circled several times round the *Krassin* and the first greetings were shouted. Then Commandant Romagna stepped on board, saluted the Commander of the *Krassin,* and embraced and kissed the rescued men, who after experiencing

Mariano Being Transhipped to the *Città di Milano* at King's Bay

many painful vicissitudes had at last been reunited to their Italian brothers.

Within half an hour they had left the *Krassin* in the motor-launch, and as it moved away, they replied with a vigorous waving of hats to the warm cheers of the entire crew of the ice-breaker. Soon afterwards another boat came alongside to take off Captain Mariano on a stretcher, which was lowered by chains. The clouds, which up to then had veiled the distant mountains, dispersed, and a magnificent sun shone over King's Bay, dotted with blocks of drifting ice. The Captain and the officers had donned their gala uniforms, and Mme. Worontzowa too had laid aside her sheepskin clothing and was wearing an elegant dress of black silk. She had tended Captain Mariano with affectionate care up to the last moment of his stay on board the *Krassin*. From the day of the rescue she had passed nearly all her time in the ship's hospital, silent and watchful, quick to divine every wish of the patient, whom she used to call *"son grand enfant."*

On the morning of the 20th, Captain Mariano was operated upon by Drs. Garbino and Cendali, assisted by the Russian medical officer. The patient bore the operation, which lasted three-quarters of an hour, with admirable stoicism, in spite of the terrible pain which the local anæsthetic could only partially minimize. I was in the cabin

of my colleague, Cesco Tomaselli, when I heard in the passage outside a confused sound of voices and footsteps, and immediately afterwards the voice of Captain Mariano rang out:

"Here comes Captain Mariano minus a foot."

During the brief stay of the two big vessels at King's Bay, there was a cordial exchange of visits between the two crews. The officers of the *Krassin* were several times the guests of Commandant Romagna and his officers on board the *Città di Milano,* and the sailors of the two vessels paid a number of visits to each other's ships. During one of these a cinematograph operator of the *Città di Milano* fell overboard from the *Krassin,* but was soon pulled out. This accident, however, caused the loss of several interesting films showing the arrival of the *Krassin* at King's Bay.

On July 22, at 6 p.m., the *Città di Milano* left King's Bay for Narvik, whence the survivors of the *Italia* continued their journey home by rail.

CHAPTER VIII

NY AALESUND

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Unforeseen difficulties delay the second expedition of the *Krassin*—Captain Sora and his brave Alpine soldiers—From Cape North to Foyn Island—Van Dongen: a wonderful trencherman—Professor Hoel and his knowledge of Spitsbergen—A Norwegian at war with England—The dull and curious life at Ny Aalesund—The coal industry—Hunting—I leave King's Bay and reach Bodö, where I am interviewed.

I STAYED at Ny Aalesund a week, occupying a small room that had already accommodated General Nobile, in the house of the local doctor, the last wooden house of the little village. From the large window I could see the chain of glaciers which encircle the bay and the vast open space on which stood the hangar used by the *Italia* and for many weeks the centre of the expedition's activities.

I was preoccupied and vexed, because difficulties, which, although unforeseen, had to some extent been anticipated, were threatening to delay seriously the second expedition of the *Krassin* to search for the balloon of the *Italia* and clear up the mystery of the fate of the other six members of the crew.

The plan of the Russians was to stay only a few days at Ny Aalesund in order to fill the ship's

water-tanks, and then to make for Advent Bay to re-coal and to repair as far as possible the propeller and the rudder.

At King's Bay Captain Eggi received the unwelcome information that the capacity of the pumps at Ny Aalesund was only 4 to 5 tons of water an hour, and as the *Krassin* needed about 1,500 tons, at least twelve days would be needed for the operation. Coaling would account for another six or seven days, and something like twenty days would be spent in the two operations. This unpleasant surprise led the commander of the *Krassin* to consider taking the vessel to some big Norwegian, Swedish, English, or German shipbuilding yard, where the damage to the ship could be properly repaired. The return journey and the taking on board of water and coal, in addition to the repair work, would not require more than the twenty days necessary for the first plan, in view of the greater technical facilities offered by a big port.

Tschuchnovski, the mechanics of the Junkers aeroplane, and the Russian journalists disembarked, after having had the machine, which had been fitted with floats, lowered on to the water. On July 23 the *Krassin* left for Norway.

The ice-breaker had been steaming for only a few hours when she received calls for help from the *Monte Cervantes*. This steamship, which was

carrying about 1,500 tourists of various nationalities, while steaming at a speed (too risky in those waters) of 8 knots, had struck two ice-blocks which had holed her in two places. A large inrush of water had followed, and the vessel had begun to settle at the bows. The captain had for a long time concealed the serious damage sustained by the ship, and the passengers only discovered what had happened when their cabins began to be flooded.

The *Krassin* immediately made for the stricken ship and lent her all the assistance that was needed in the grave emergency. These operations occupied ten days, and the fresh delay destroyed any hope which might still have remained of returning to the spot where the *Italia* was believed to have fallen, before the advancing season caused the breaking-up of the pack.

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I passed my days in making interesting excursions with Captain Gennaro Sora and Professor Hoel. To the right of the big hangar, which was now cleared of all useful material, there stood on the slopes of the glacier a wooden hut to which Sora had given the pompous designation of "Grand Hôtel Foyn." The hut, which had been erected by the Italian expedition, was to have served as a store-room and eventually to have accommodated General Nobile and several of the crew of the airship. At

the time I was there it was occupied by the eight Alpine soldiers of Captain Sora. The banner presented by the wives of the officers of the 6th Alpine Regiment was hung from a pole. Each soldier had hung above his hammock his own banner bearing his name and the motto: "Remember that you are an Alpine soldier."

Seated on the stony ground, with his back towards the warm sun of the Polar night and his eyes fixed on the framework of the now deserted hangar of the *Norge* and the *Italia,* Captain Sora related to me the daring exploits of his men. Only two things exist in the world for this splendid officer —the mountains and his Alpine troops. The work these brave youngsters accomplished in connexion with the expedition was really marvellous. In the trying month of April, when the snow was deep and the temperature very low, they performed miraculous work in transporting material and preparing for the departure of the *Italia.*

When the *Italia* fell to destruction on the ice and the rescue operations were begun, Captain Sora was the first to throw himself into the dangerous work of searching the ice-fields. He now told me something of the astounding march which took him from Cape North to Foyn Island, where he was picked up by the Swedish and Finnish airmen. Leaving Beverly Sound (Cape North) accompanied by the

Sora

Dane Warming and the Dutchman Van Dongen, with nine dogs and a Nansen type sledge built in Norway to the designs of Otto Sverdrup, a small boat, and an ample supply of provisions and medical stores, he first covered a stretch of forty-seven miles in fourteen hours—an arduous march across the firm but extremely irregular ice of the bay. In a second dash he reached Cape Bruun, fifty miles from Cape Wrede, where his tent was pitched at the end of the first stage. Leaving Warming, who was not in a condition to continue, with a tent, food, and arms, Sora and Van Dongen continued the march alone, finding it necessary to go on ahead and make a track for the dogs which were sinking in the soft snow. Then, pushing out on to the moving pack, Sora and his companion reached Broch Island, and after another thirty-one hours' marching arrived at Foyn Island. In order to make more rapid progress, they had gradually been compelled to abandon part of the food supplies and were consequently reduced to a diet of dog's flesh and eggs of sea-birds—the only resources offered by the little island.

Sora spoke of Van Dongen in the highest possible terms, but could not forgive him for his voracious appetite.

"A Polar expedition," Captain Sora said, "becomes an almost impossible undertaking with Van Dongen as a member. A fine chap, an excellent

comrade, and a magnificent walker, but what an appetite! He simply cannot keep to a system of rations, and the normal sixteen ounces of food a day are for Van Dongen merely an appetizer. Anyone who has never seen his jaws in action cannot possibly imagine the devastation which that big fellow can cause to the supplies of an expedition and to the resources of a Polar island. Pemmican, eggs, dog's flesh, chocolate—all disappear. And not even the abstinence that I willingly imposed upon myself, to give him an example, induced him to moderate his ways; nay, he used to eat my share as well!"

Captain Sora then told me of the repeated efforts he made to reach the Red Tent, which the drift of the ice in the meantime had carried nearly twenty miles away.

"If I had known its exact position," he exclaimed, clenching his fist, "you can be quite certain I should have succeeded in reaching it."

But, as he was unable to check day by day the movements of the encampment of the Viglieri group, his task became impossible.

"Just think that one day I was only a few miles from the Red Tent and did not know it!"

Finally the *Krassin* passed, and in the evening of that historic day of July 12 three aeroplanes, two Swedish and one Finnish, landed on Foyn Island.

"The airmen told me that Mariano and Zappi

were saved, that the Viglieri group too was on board the *Krassin,* and that the balloon had been burnt. What else was there that I could do in those regions?"

So Sora, with the trusty Van Dongen, stepped on board an aeroplane indicated to him by the airmen, and was taken back to King's Bay. But that flight had left the valiant Alpine officer quite indifferent. He has no liking for the air. He prefers to feel rocks and ice beneath his heavy boots. He was compelled to leave on Foyn Island two dogs, his camera, a tent, and the oil stove that had served Wilkins in his trans-Polar flight. Wilkins had given the stove at Green Harbour to Warming, who had taken it with him on the march. It had thus been sent on another journey towards the Pole, but Sora has lost an historic relic.

He had within a very short time become completely acclimatized to the rigorous life at Spitsbergen. There was now no difference between this native of Bergamo and any perfect Norwegian hunter who for years and years had lived in those wild regions. Not only did he know how to kill bears and seals with the skill of a Norwegian, but he had also learned, and had taught his Alpine soldiers, how to drink blood as it flowed from the wounds of the dead or dying animals.

Captain Sora and his men had amazed even the

Norwegians. "To Foyn Island on foot! Impossible!" the Prefect of Spitsbergen had exclaimed in decided tones. "From King's Bay to New Friesland across the whole of that vast region of glaciers! Impossible!" But Sora showed by deeds that mountains after all are only mountains, and that the glaciers of Spitsbergen are no more to be dreaded than those of the Adamello, which were the scene of feats of great heroism by the Italian Alpine troops during the Great War.

The soldiers of Captain Sora represented nearly all the Italian Alpine regions. There were Sergeant-Major Sandrini, of Ponte di Legno; Sergeant-Major Gualdi, of the Valsesia; Corporal Bich, of Valtournanche; Privates Pedrotti, of Valmalenco; Pelissier, of Valtournanche; Casari, of the Valsassina; Guidoz, of Pré Saint Didier; and Deriard of Courmayeur. With the *Sucaini* they had taken part in all the expeditions, always modest, never pushing themselves forward; happy, whatever difficulties were encountered, to be face to face with those obstacles that legend and distance had up to then exaggerated to the point of making them appear invincible. These great relief attempts have shown that technically as well as physically the Italians can take their place alongside the men of the North.

At Ny Aalesund the Alpine soldiers took it in

turn to guard the Italian aircraft moored in the little bay which had come to be known as Aviators' Bay. Here there were also two Norwegian "baby" machines, and Tschuchnovski had established his encampment. The wooden hut had been converted into a comfortable refuge, which became the meeting-place of the few members of the expedition left at King's Bay after the departure of the *Città di Milano* and the *Krassin*. As a rule Sora's "receptions" were held at midnight, and at this hour one could always be sure of finding a cup of tea at the "Grand Hôtel Foyn," and of hearing an account of some new adventures of one or another of the eight Alpini.

There was, for instance, the story of the air-screw. At the time Sergeant-Major Gualdi and two Alpine soldiers were, I believe, at Cape North, where a little hut had been constructed. One of them had fired at and wounded a bear, which dived into the water and made for a distant floe on which to die. It was necessary to recover the body, and as the party had no boat, they built a raft. To test this, one of the Alpini, Bich I believe it was, completely stripped himself, "so as not to spoil my clothes," as he put it, and reached, under the warm rays of the Polar sun, the floe on which the dead bear was lying. One of the builders then thought he would try to improve the raft, and made an air-

screw for it. In order to test the efficiency of the screw, this was fastened to the hut. A strong wind rose and the screw began to revolve at terrific speed, causing the hut to rock as if it were about to leave the ground. The two Alpini who were resting inside rushed out, thinking an earthquake had occurred. "Sergeant-Major," Bich exclaimed humbly, "I only wanted to try the engine for our boat." The next day the raft, fitted with the air-screw, sailed out majestically to meet the *Braganza*.

Professor Hoel was always to be found in the company of Sora and the Alpini. Borings were at that time being made to the north of Ny Aalesund, along the edge of the glaciers, in order to ascertain the extent of the coal deposits in that region. Sora, Hoel, and I used to make almost daily visits in order to watch the work. To reach the spot it was necessary to pass vast snowfields broken by streams which ran down from the surrounding glaciers. Thousands of magnificent specimens of petrified leaves were to be found along these streams; they were the remains of vanished forests, on which Professor Hoel used to give us extremely interesting talks. This Norwgian geologist is a fine type of man. For more than twenty years he has dedicated the whole of his time to the study of Spitsbergen. He is an inexhaustible walking encyclopædia, with a knowledge equalled by few others in

Van Dongen

the world of the vicissitudes of the scientific and rescue expeditions which have worked in the Polar regions during the last decades and in which he has played a more or less direct part. No scientist or hunter decides to venture into these regions without first consulting him. In connexion with the expedition of the *Italia* he was called upon to give advice, occupying himself with the supply of maps and the construction of sledges.

Rote Bay? Here (Hoel would explain) in 1906 the *Ile de France* with many tourists on board ran aground and escaped disaster only because the German journalist Theodor Lerner, who was at Spitsbergen in order to be present at the departure of Wellmann (who was the first to attempt to reach the Pole in a dirigible), had a small steamer available, and was able to warn in time the Dutch steamship *Friesland* which had come to honour the memory of the Dutch whale-hunters who perished in the seventeenth century. The *Friesland* hurried to the rescue and picked up the tourists who had already reached land, where they were suffering privation through lack of clothing and other necessaries.

Treurenberg? There, to the south-east of Moffen Island, the German Schröder-Strantz expedition became imprisoned in the ice and lost nine men.

Sverreberg, the inlet south of Moffen Island?

Here are found the most northerly volcanoes in the world, with thirty springs from which flows water having a temperature of 82.4° Fahr. Along the whole of the northern coast of Spitsbergen to the south of Moffen Island splendid specimens are found in the red rocks of fossilized fish, the most ancient vertebrates known, perfectly recognizable in every detail, extinct species which lived in an age which science fixes at something like 400 million years ago.

One night when we were at Cape Wrede at the time of the embarkation of Tschuchnovski's aeroplane, Professor Hoel left the *Krassin* accompanied by the hunter Nois to make an exploration of the neighbouring mountains. He returned next morning with a sack full of stones, delighted at having discovered minerals, the presence of which at Spitsbergen had not been previously suspected.

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At the "villa" I made the acquaintance of Mr. Peter S. Brandal, of Aalesund, a little town in western Norway. Short, stout, ruddy, and ceremonious, he might be taken for a good civil servant who was on the eve of retiring on his pension. Mr. Brandal, in the prime of his life, roughly speaking about twenty years ago, was a daring and successful hunter of whales and seals—so much so that within a few years he became owner of ten fishing vessels with

which he crossed the northern seas in every direction, pushing as far as the "Eiskante," the barrier of perennial ice which not even the August sun succeeds in melting. In 1916, at a time when his affairs were developing splendidly, a misfortune befell Mr. Brandal. The British accused him of selling large quantities of seal fat to the Germans. There is no need to inquire who was right, the British Vice-Consul at Aalesund or Mr. Brandal; the fact remains that the British placed his name on their black list, and refused to supply coal to his ten ships. The whale and seal hunter was dumbfounded at this action, but, as one accustomed to battling in life, he made a counter-attack.

The Spitsbergen group of islands was discovered and given its name because of the sharp summits of its mountains by William Barents in 1596, during his attempt to find to the north-east a passage to the Far East. It is probable, however, that the region was known as far back as the twelfth century to Norwegian hunters under the name of Svalbard (ice coasts). In any case, to Barents belongs the honour of having ascertained that Spitsbergen is a group of islands. It seems that it was earlier thought that Greenland, Spitsbergen, North-East Land, and Franz Josef Land formed a single territory; several old maps give evidence of this. Towards 1609 the islands began to be visited by hunt-

ers from different countries, and especially by Englishmen, Dutchmen, Frenchmen, Germans, Danes, and Norwegians. Since the land was considered a *terra nullius*—and such it remained up to the Paris Convention of February 20, 1920, which recognized the sovereignty of Norway over the region—many of the visitors proclaimed themselves "owners" of large tracts of territory, so that within a short time there was hopeless confusion among the various "properties." The ownership of a given portion of land was claimed by several persons, and conflicts, often of a very bitter character, arose between the interested parties. Traces of these "annexations" are visible to-day. North of the little freshwater lake of Ny Aalesund, which provides a water supply for the locality as well as for ships, one still comes across poles with boards bearing notices of this sort:

"I, So-and-so, of such a city, citizen of etc., etc., declare that this piece of land lying between such a degree of N. lat. and such a degree of E. long. is my property. I intend to devote my financial and physical resources to developing the land for this or that purpose (hunting, scientific research, mining, etc.). I have given notice of this annexation to the Ministry of Foreign Affairs of my country, so that my interests may be properly safeguarded. The act of annexation has been carried out in the

Italian Alpini with Captain Sora at King's Bay

On the left the *Italia's* shed.

presence of the witnesses, Messrs. etc., etc." The signature and date follow.

About one-third of the territory of Spitsbergen was "annexed" in this way, without, however, any of the "annexers" making a serious attempt to develop the resources of the country. Those who were desirous that their annexation should be of a lasting character, carried out some so-called "defence work," which generally lasted only a few days a year. One of these "annexers" was the Green Harbour Coal Company, which declared itself to be "proprietor" of the best part of King's Bay, where the coal-mines are situated, without, however, executing any noteworthy work of development.

In this way Spitsbergen until 1905 remained more than anything else a land of seal and bear hunters, and supremacy over it was divided between two Powers—Russia (from 1730 to about 1820) and Norway (from 1790 up to the recognition of Norwegian sovereignty).

This state of things had not been lost sight of by Mr. Peter Brandal, who conceived the daring plan of undertaking the exploitation of the coal deposits at King's Bay, thus killing three birds with one stone. He would provide his boycotted ships with a supply of fuel, establish a paying business, and give a Roland for an Oliver to the English by setting himself up as a competitor to English coal in

northern Norway. Having acquired for a mere song the "rights" of the Green Harbour Coal Company, he began the construction of the plant which is still working to-day.

Thus arose in 1917 the small and only inhabited locality at King's Bay, which Mr. Brandal named "Ny Aalesund"—New Aalesund. To-day the inhabitants of Ny Aalesund number 275—250 men, 20 women, and 5 children. These figures illustrate, better than any comment of mine could do, the abnormal conditions of life in this northern colony. Woman is considered there as something extremely rare and precious. There is not a woman, it is affirmed, who, however little she may have been gifted with natural graces, cannot find in the village a man ready to marry her, and the arrival of a girl at Ny Aalesund is an event. I was told that girls, even while on board the ships which are bringing them, receive dozens of offers of marriage.

But matrimony there is a difficult business. The family is a privilege of the few. The coal company exercises sovereign sway over matter and men. The ships which afford communication between Norway and King's Bay either belong to, or are hired by, the company, and, as no other means of transport exists, nobody can embark for Spitsbergen without the consent of the company; and, even if anyone succeeded in eluding its vigilance, it would be impossible to

land. Miss Behounek, who went there to meet her brother, had great difficulty in obtaining permission to go ashore, not because of any spirit of hostility on the part of the mining company, but because Ny Aalesund completely lacks any sort of accommodation or boarding facilities. The wooden buildings which house the engineers, clerks, and workmen are the property of the company, as are the landing-stage, the water-supply system, and the very few boats which are to be found at Ny Aalesund. In a word, the company is the owner of the whole of King's Bay.

No hotel, inn, or shop exists at Ny Aalesund. There is only a "butik," where one can buy a few articles of clothing, but nothing in the shape of food. The workmen have a mess, and the "functionaries" (the engineers and clerks) have another. Finally there is the "villa," an edifice of red wood, where the very few persons whom the company allows to land receive cordial hospitality. The workmen sleep in their little houses in groups of six to a room. The engineers, the doctor, and the few "functionaries" who are allowed to set up a family have their own little dwellings. There are in addition a laundry, a public vapour-bath, a little hospital, and a post-office. There are no police, because the need for them has never been felt; and, in fact, with alcohol forbidden and with the comparative absence of

women, the factors which habitually give rise to disputes between men are lacking. The Norwegian Government has a representative, who, however, has so little to do that he passes the whole winter, nine months of the year, in Norway. The representative in whom is vested all power for the remainder of the year is the manager of the mine.

Life at Ny Aalesund is dull, in spite of the efforts of the management of the company to offer some form of amusement to the workmen. The showing of some old cinematograph film or other is an event. When the little orchestra of the *Krassin* went ashore to give a concert, the small local population became greatly excited, and that evening there was even some dancing. It is said that the workmen earn good money, more than they could get in Norway, and that after a few years of this colonial life they are able to return home with several thousand crowns saved. This is very likely, but in any case whatever they have been able to save has been got together at the cost of many privations.

Since 1916 the mining company of King's Bay has been reconstituted several times. The capital provided by Mr. Brandal was found to be insufficient, and a company, in which various banks and the Norwegian Government exercise a powerful influence, was formed. The affairs of the company are not very flourishing, owing to the low price of

coal in the world's markets and the competition of Polish with English coal in Norway, but a successful future is predicted for the undertaking. Ny Aalesund now exports 100,000 tons of coal yearly to Norway; but as Spitsbergen coal contains 20 per cent. of oil, a scheme is on foot to construct a big plant for the liquefaction of coal by the system of the German Bergius.

King's Bay is not, however, the centre which furnishes the greatest output to Spitsbergen coal. First place is taken by Advent Bay, where the "Store Norske Spitsbergen Kul Company" holds sway and exports 220,000 tons of coal yearly to Norway, providing employment for 500 workmen. As Norway consumes 2,000,000 tons of coal a year, the production of Spitsbergen represents about 16 per cent. of the country's needs. The coal deposits in Spitsbergen are estimated at about eight milliard tons, a source of supply that could supply the needs of the whole of northern Europe, Norway, Sweden, Denmark, Iceland, and northern Russia; but for exhaustive exploitation huge sums would be required, and the moment is not favourable for the investment of capital in coal-mining undertakings. In any case, even the present limited supplies from the Spitsbergen mines are of great importance to Norway and to her foreign exchange.

In addition to the two big companies at King's

Bay and Advent Bay, in which Norwegian capital holds undisputed sway, there are in Spitsbergen other notable undertakings—two companies, one Swedish and the other English, at Bellsund, and a Dutch company at Green Harbour, all three engaged in coal-mining, and a Russian company and a Scottish company on the Ice Fiord, which both work chalk quarries.

The other great activity of Spitsbergen, that of hunting bears, white and blue foxes, seals, and walruses, is now wholly in the hands of the Norwegians. The climate in the whole of the islands is a healthy one. The rainfall does not exceed 12 inches a year, something like that in the desert, and, in fact, the atmospheric phenomena have very similar characteristics to those of desert regions. But a stout heart and a very strong constitution are needed to live for long in those regions, where the eye can never rest on the green of a blade of grass or on the cheerful colours of a flower. There the blinding whiteness of the glaciers beneath the sun of the Polar summer and the oppressive gloom of the almost interminable winter reign supreme.

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Having received news of the fresh delay caused to the *Krassin* by her succour of the *Monte Cervantes,* I came to the conclusion that the Russian ice-breaker would not be able to resume the search

The Author

for the balloon party in less than a month. I therefore left King's Bay on board the *Marita,* a collier of about 3,000 tons, built at Shanghai, and on her way to Bodö. The crossing could not have been a worse one. A very strong wind from the west caused the ship to be tossed about like a shuttlecock for three whole days. The violent rolling of the vessel caused extraordinary happenings on board. Cupboards full of books, navigation instruments, tins of preserved food, and kitchen utensils were all strewn about in hopeless confusion, and were left to roll from one side of the vessel to the other for an entire night, for the crew, entirely occupied with managing the ship, could spare no time to clear up the disorder.

At Bodö—a characteristic little Norwegian town of wooden houses, with a population of a few thousand souls who live by fishing, outside the Arctic Polar Circle and lying in a deep and winding fiord—while dining at the hotel, I was approached by a gentleman dressed in black and armed with a notebook and pencil, who asked me for an account of the expedition of the *Krassin* for the columns of the local newspaper. Although I was feeling extremely tired, I consented to give him this out of courtesy to a colleague, and the gentleman in black began to jot down his notes. Suddenly he asked to be excused, as he had to receive the passengers off

the mail-boat which had just arrived. Surprised at this explanation, I asked him what connexion the passengers had with him.

"I am," my interviewer explained, "the door-keeper of the hotel. As the manager, who is also the reporter and proprietor of the local newspaper, knows only Norwegian, I have to become a special correspondent on exceptional occasions like this, because I have a knowledge of other languages."

With this he bowed and went off. The next day, when, at the moment of paying the account, I wanted to offer him a tip, he thanked me with a dignified gesture, saying:

"Thank you, but from you I have already had the interview."

CHAPTER IX

THE SECOND EXPEDITION OF THE KRASSIN

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THE SECOND EXPEDITION OF THE *KRASSIN*

Two months later—Tschuchnovski again—The *Krassin's* new search from King's Bay to Cape Neale—No trace of the missing balloon party—Bad weather and darkness cut short the search—The mystery remains unsolved.

THE second expedition of the *Krassin* had negative results. Having left on July 14 the pack-ice on which the Italian castaways had passed forty-nine days of anxious waiting, the *Krassin* returned to the same zone in the second half of September.

The few days' absence expected by the commander of the Russian ice-breaker when the order was given to return had thus been prolonged to over two months, during which the summer had profoundly changed the formation of the pack. I have already referred to the reasons which induced the commander of the *Krassin* when at King's Bay to decide to take the ship to Norway to replenish the supplies of water and coal and for repair work. Ten days were taken up by repairs to the *Monte Cervantes*. Obviously the *Krassin* could not refuse to render

assistance which had been urgently called for, and without which the big German ship, carrying over 1,500 persons, including passengers and crew, would have sunk in less than twelve hours. Yet it is clear that this delay of ten days was an important link in the chain of adverse circumstances which conspired to make impossible a successful continuance of the work of searching for the castaways of the *Italia*.

After the holes in the bows of the *Monte Cervantes* had been summarily repaired, the *Krassin* escorted the German steamer to Norway, where it was taken in charge by German relief ships from Hamburg. Thus further time was lost. The ice-breaker then made for Stavanger, the only Norwegian dockyard capable of receiving ships of her size. The repairs took several days longer than had been anticipated. The damage suffered by the ship was found to be more serious than had been believed, and a thorough cleaning of the boilers was also necessary, as the condenser had allowed an infiltration of salt water. It was necessary, too, to replace many of the bolts which fixed the steel plating to the hull, as these had become considerably worn in the long and violent friction with the ice.

At last the *Krassin* was in a condition to turn her bows towards the North. Her first call was at King's Bay for the purpose of taking on board the material which had served Tschuchnovski and his

Tschuchnovski's Machine Dismantled for Loading in the *Krassin*

companions, the mechanics, the wireless operator of the Junkers aeroplane, and a Russian journalist, during their stay while the ship was away. At Aviators' Bay, from the waters of which Maddalena and Penzo, Rijser Larsen and Luetzow Holm, had started their flights in search of the *Italia's* crew, Tschuchnovski had established a well-organized encampment on some stony ground that slopes towards the sea, a short distance from the eternal snowfields crossed by streams of water of a dark red colour which stain the white surface with blood-red patches. Three large octagonal military tents had been pitched there, one to house the wireless station, another, provided with sleeping-bags, to serve as sleeping-quarters, and the third to act as a mess-room. During my brief stay at Ny Aalesund the Russian airman had actually given a banquet. I shall long remember the little feast to which we were invited to partake of roast duck; the dish, however, never made its appearance because the baker of Ny Aalesund, taking his stand on local regulations which prohibit the shooting of ducks and gulls, refused to roast the birds. The guests included the manager of the mines, Mr. Sherdal, ruler of the destinies of Ny Aalesund, the local doctor, Professor Hoel, and Captain Sora, Sergeant-Major Gualdi, and myself, of the Italians—all with a Polar appetite. In the absence of ducks, we con-

tented ourselves with cheese and Russian sausage. The banquet was rather on the light side, but it lasted till late in the evening.

Tschuchnovski's plan was to carry out aerial reconnaissances during the absence of the *Krassin,* to find on the northern coast of Western Spitsbergen, in the neighbourhood of Cape North, a safe bay where the *Krassin* might anchor and establish her base during the systematic searches that Tschuchnovski was to make for the Pontremoli group. The rather unfavourable weather prevented Tschuchnovski from making many flights, but he nevertheless decided to establish the base at Beverly Sound.

Having taken on board Tschuchnovski's material, the *Krassin* continued her voyage towards the north, and anchored in Beverly Sound near Cape North. Tschuchnovski remained with his machine at King's Bay with the intention of reaching the *Krassin* as soon as weather permitted.

In the meantime five ships were searching for the lost balloon party. The *Città di Milano,* which, after landing the survivors at Narvik, had returned to King's Bay, formed a sort of general headquarters for the expeditions still in action. The *Braganza,* having on board the second-in-command of the *Città di Milano,* Commander Baldizzone, and the airmen Penzo and Crosio, had reached a point ten miles north-west of Gilles Land, and had an-

chored herself to the ice between this island and Great Island to the east of Cape Leigh Smith. Thus the whaler found herself in the zone where the disaster to the airship occurred, and, in addition to making searches on her own account, she put herself into communication with ships that were steaming in the neighbourhood—the whaler *Viking,* which had pushed forward to within fifteen miles north of Gilles Land, and, therefore, to the north of Great Island; the *Veslekari,* which was carrying out a search between Victoria Island and North-East Land on behalf of the French relief expedition; the *Heimland,* likewise working for the French expedition; and the small and trusty *Hobby,* which was operating near Franz Josef Land.

None of these vessels had, however, found the smallest trace of the balloon. With the arrival of the stormy and foggy season, which prevented good visibility, these solid but small vessels had been gradually compelled to leave the area of search and move southwards. The last to abandon the task was the *Braganza,* which finally anchored at Virgo Bay. In the meantime the *Città di Milano* had left for Norway.

After waiting for eight days, Tschuchnovski at last succeeded on September 10 in flying to the *Krassin.* The *Braganza,* which had remained at anchor in order to ensure that the flight of Tschuch-

novski should be attended by as few risks as possible, also left the scene, and the *Krassin* alone remained to continue the search. Tschuchnovski's plan to make a series of reconnaissance flights from Beverly Sound could not, however, be carried out because of the sudden arrival of bad weather. The Polar fog, which in the autumn sometimes hangs for weeks together over Spitsbergen, had in the meantime made its appearance, and the temperature fell rapidly and the sea became ever more tempestuous. The commander of the ice-breaker then reconsidered his plans, and it was decided, as the waves were threatening to swamp the Junkers machine, which was lying at anchor a short distance from the vessel, to take it on board and to depart for the ice-barrier which lay in a semicircle several miles to the east of Great Island. It was considered that the currents might have swept the pack, on which the balloon of the *Italia* had fallen, to this area.

The operation of taking on board the machine, carried out in a rough sea with a strong and icy wind blowing, was one of the most difficult tasks that the crew of the *Krassin* had had to deal with. Finally, the ice-breaker resumed her voyage, and steered northwards, following as nearly as possible the 20° meridian, and, after opening a passage for herself through the pack, which was over 6 feet thick but not over-compact, touched 81° 47′ lat. Thence,

Celebration of Mass on the *Città di Milano*

turning east-south-east, she returned to open water.

On September 19 the *Krassin* was steaming in the zone where the marine charts indicate the presence of a tract of land which Gilles believed he had discovered in 1707, and which General Nobile, during the first flight of the *Italia* towards Nicholas II Land, definitely ascertained did not exist. The hydrographer Beretskin measured here a depth of 380 metres.

A winter temperature was now being experienced. The sea began to be covered with a crust of ice that united the floating floes. The darkness of the Polar night began to fall and made it impossible for the *Krassin* to navigate waters which had never previously been visited by a vessel of so heavy a tonnage. Progress became ever more slow and difficult. Strong north winds dashed all hopes of Tschuchnovski's being able to resume his aerial reconnaissances. The Russian Relief Committee for the Nobile Expedition had ordered the *Krassin* to continue the search until the end of September and afterwards return to her base at Leningrad; but again the adverse forces of Nature prevented the regular development of the prearranged programme.

On the morning of the 22nd the low coast of Alexandra Land, the most western point of the archipelago of Franz Josef, was sighted. During the whole of the voyage the look-out men did not

see the least trace of the balloon or any sign of the passage across the ice of any of the *Italia's* missing crew. After having visited Nordenskiöld Bay, the *Krassin* entered Cambridge Strait, as far as the condition of the ice would allow her, afterwards descending to Cape Neale, where a small refuge hut that the ice-breaker had brought from Norway was erected on the land. While the hut was being stocked with a supply of food, a stove, and fuel, the weather redoubled in violence, and compelled the crew to break off the work. The intense cold favoured in ever-increasing measure the formation of ice, and strong winds made the whole operation extremely difficult and dangerous.

By September 24 conditions had grown still worse, and the commander of the ship found himself compelled to come to a definite decision. An examination of the situation showed clearly that it would be impossible to prolong the search till September 30 without running the risk of becoming blocked in the ice and having to pass the winter in those latitudes. Although an exceptionally strong vessel, the *Krassin* began to find herself in difficulties, while an improvement in the very severe weather, such as would allow the vessel liberty of action sufficient to continue further exploration, seemed very improbable. It was, therefore,

decided to make for the open sea at the earliest possible moment and to return to Russia.

In this way the search for the balloon party of the *Italia* came to an end.

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To-day it is difficult to say whether, if the search had been continued immediately after the rescue of the Viglieri group, in the zone where General Nobile and his party saw the mysterious column of smoke, the six men left in the balloon could have been rescued. We know now, from all the theories put forward by the rescued men who, immediately after they were thrown out on to the frozen snow, saw the balloon rolling heavily as it was swept away, that the column of dense smoke seen 12 or 18 miles away did not necessarily furnish certain evidence that the balloon and the men it carried had definitely fallen at that point. The possibility that the balloon had at that moment become lightened of its stores of petrol and oil and had still remained in the air, afterwards falling on the ice much farther to the east, cannot be ruled out. It is by no means certain, however, that the search, if continued immediately, would have led to positive results. Still, it cannot be doubted that the last favourable moment for a continuance of the search with any probability of success was when the *Krassin* lay alongside the Red Tent encampment. There

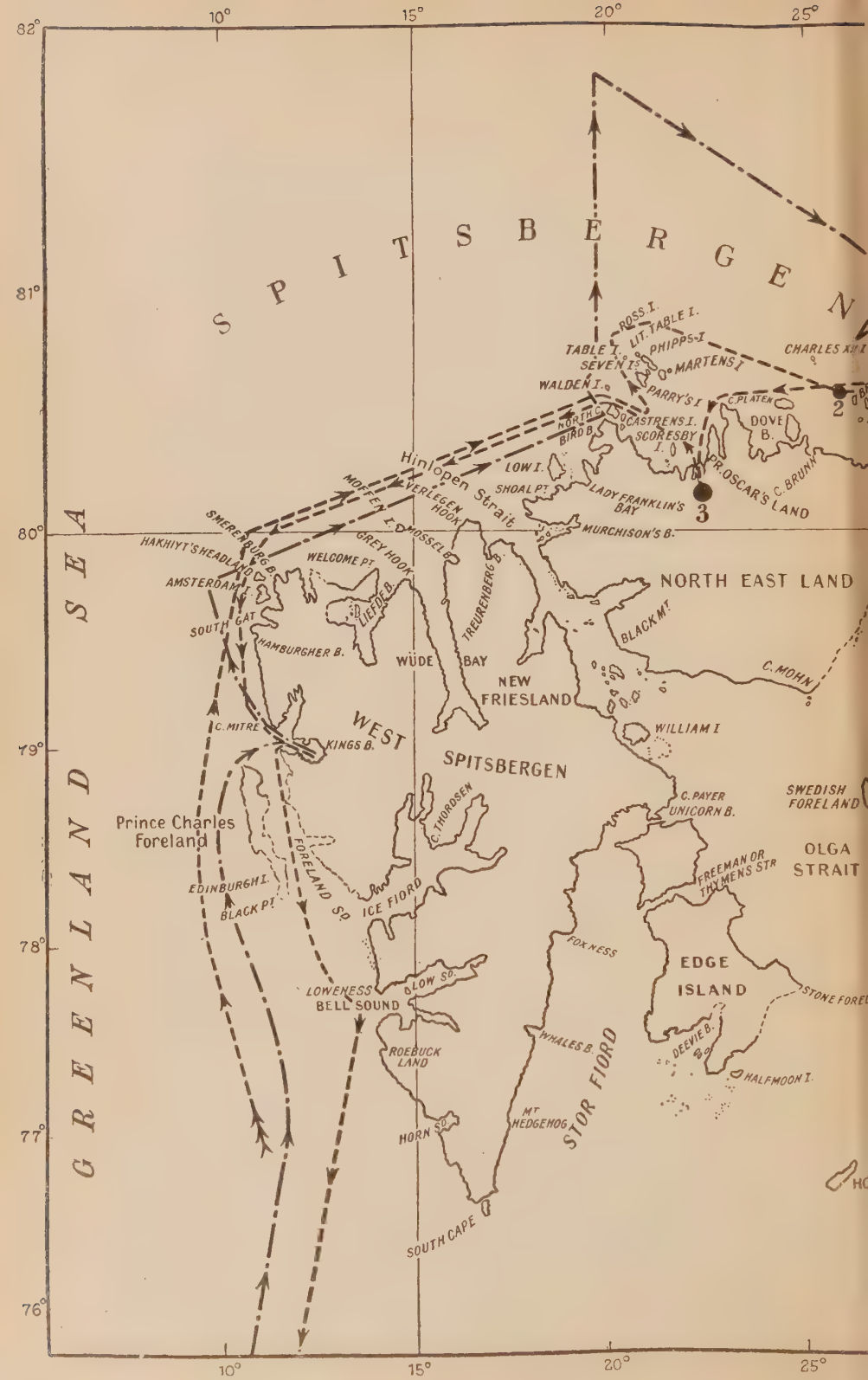
was, in fact, a delay of two months, and the pack, which was already breaking up rapidly in the memorable days when the ice-breaker snatched from certain death Captains Mariano and Zappi, was by the middle of September in a state of complete dissolution. Many of the great fields of ice had been reduced to fragments surrounded by water and, therefore, quite incapable of supporting heavy weights, and at the mercy of the currents. To attempt to continue the search amid such chaos was quickly shown to be an impossible undertaking.

Must, therefore, all hope be abandoned of traces of the lost men and the airship ever being found? One hesitates to think so. It is possible that the balloon of the *Italia* may have fallen on some vast field of ice which is still intact but which was outside the short range of vision of the look-out men of the *Krassin*, or in the interior of some uninhabited territory.

The last veil which enshrouds the mystery has not yet been lifted.

(1)

THE END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SPITSBERGEN
GREENLAND SEA
TABLE I.
ROSS I.
LIT. TABLE I.
SEVEN I.
PHIPPS I.
MARTENS I.
CHARLES XII I.
WALDEN I.
PARRY'S I.
C. PLATEN
NORTH C.
CASTRENS I.
SCORESBY I.
DOVE B.
BIRD B.
Hinlopen Strait
LOW I.
SHOAL PT.
LADY FRANKLIN'S BAY
R. OSCAR'S LAND
C. BRUNN
MOFFEN I.
VERLEGEN HOOK
MOSSEL B.
MURCHISON'S B.
SMEERENBURG B.
HAKHYT'S HEADLAND
GREY HOOK
WELCOME PT.
AMSTERDAM I.
LIEFDE B.
TREURENBERG B.
NORTH EAST LAND
SOUTH CAT
HAMBURGHER B.
WUDE BAY
BLACK MT.
C. MOHN
NEW FRIESLAND
C. MITRE
KINGS B.
WEST SPITSBERGEN
WILLIAM I
C. THORDSEN
C. PAYER
UNICORN B.
SWEDISH FORELAND
Prince Charles Foreland
OLGA STRAIT
EDINBURGH I.
BLACK PT.
FORELAND SD.
ICE FIORD
FREEMAN OR THYMENS STR.
FOX NESS
EDGE ISLAND
LOWENESS
BELL SOUND
LOW SD.
STONE FORELAND
WHALES B.
DEEVIE B.
ROEBUCK LAND
HALFMOON I.
MT. HEDGEHOG
STOR FIORD
HORN SD.
SOUTH CAPE
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2
3

30°
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Gillis Land
FRANZ JOSEPH LAND
MABEL BRUCE FD
C. NIMROD
C. MARY HARMSWORTH
ALEXANDRA LAND
PRINCE JOHN LAND
C. LOFLEY
C. LUDLOW
CAMBRIDGE B.
C. NEALE
PEARY GLACIER
GRAY B.
C. GRANT
BELL I.
GILLES LAND
VICTORIA I.
LEIGH SMITH
GREAT I.
WYCHES ISLANDS
NORTH EAST POINT
ARCTIC OCEAN
REFERENCE.
The Krassin's First Journey.
The Krassin's Second Journey.
1 Where Viglieri Group was picked up.
2 Where Mariano Group was picked up.
3 Where Tschuchnovski was picked up.
Scale of Miles.
0 100 200 300 400 500

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